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## September Super Production Tops Year-Ago Figure

### USDC Report Shows Increase in Shipments, Drop in Stocks Held

WASHINGTON — U.S. September production of superphosphate and other phosphatic fertilizers amounted to 198,000 short tons, reports the Bureau of the Census, U.S. Department of Commerce, in its "Facts for Industry" bulletin.

The figure compares with last year's September output of 170,431 short tons.

Shipments of superphosphate and other phosphatic fertilizers during September totaled 158,137 short tons

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## Mexico Plans Large Construction Program

MEXICO CITY, D.F. — A huge spending program will soon get under way in Mexico, according to Javier Barros Sierra, secretary of public works. Petroleos Mexicanos (PEMEX) will spend a minimum of a billion pesos (\$80 million U.S.) on new construction the next five years.

Included in these projects will be a petro-chemical plant that will produce ammonium anhydride for the manufacture of fertilizers for Mexico's agricultural areas.

Agriculture has made steady progress the last few years. One area in particular, the Rio Grande Valley, is now growing cotton comparable to that of American farms just across the river.

There has also been much closer cooperation between the two countries on insect control and other mutual problems.

### Payments Pending . . .

## Massachusetts' Cranberry Growers Await Their Fate

BOSTON, MASS. — The cranberry industry in southeastern Massachusetts, a region which normally produces about half of the nation's total crop, is presently in a state of suspended animation following the recent "cancer" scare in connection with alleged herbicidal residues in a small portion of the crop.

The last crop for which growers have been paid in full is the 1957 harvest. They have received all but one final payment for 1958 berries, and a basic payment that falls substantially short of what it actually cost to raise the 1959 crop.

Growers have yet to feel the financial effects of the action taken by Arthur S. Flemming, secretary of

## Michigan Pesticide Facility Planned

NEW YORK — Niagara Chemicals Division of Food Machinery and Chemicals Corp. has announced that it will set up facilities at South Haven, Mich., for production of a wide range of pesticides. The announcement was made by Ralph C. Gaines, regional manager, at the Michigan State Horticultural Society show at Grand Rapids, Mich. Operations are expected to commence in March, 1960, he said.

The new unit will incorporate the latest, most modern equipment for blending agricultural dust formulations, the announcement stated. It will be located in an existing building, part of which has been used for the past two years as a warehouse for Niagara products. The building was known earlier as the Dow agricultural field research station.

According to a company spokesman, the new production facilities will provide "faster, more flexible service to Niagara customers in Western Michigan and parts of Ohio and Eastern Michigan." Further, it was indicated, they will make possible custom blending of formulations to meet local conditions which may arise be-

(Turn to MICHIGAN, page 21)

## Immediate Expansion of Pesticide Research Program Urged by USDA Committee

WASHINGTON — Additional immediate expansion in the program of research on pesticides was urged by the agricultural research policy committee of the U.S. Department of Agriculture in the former's recent annual meeting. This step was taken, the committee said, in view of the increasing number of problems relating to use of chemicals in farming and in associated operations. The scope of the present program in terms of need, the committee stated, underscores the

importance of extending present research efforts.

Much of the committee's discussion during a two-day meeting with USDA officials centered around the problems associated with both the adequacy and integrity of the nation's food supply. Immediate problems are broad. In agricultural use of chemicals the discussions indicated problems ranging from fertilizers applied in granular, liquid, and spray form through a long list of pesticides, plant growth regulators, hormones, antibiotics, feed additives, pharmaceuticals, and other compounds used to protect and produce crops and livestock.

Modern farming requires the use of these chemicals, the committee agreed. Without them it would be impossible for agriculture to supply consumers with the foods and fibers in quantity and quality necessary for this country's present high standard of living.

Emphasis in research programs relating to use of such chemicals, according to the committee, should be directed to arrive at long-range solutions of increasingly important problems while at the same time efforts are continued to solve pressing immediate difficulties. Unless basic research is strengthened in this area, the committee discussions indicated, the same problems compounded in difficulty may still remain 25 years or more from now.

The committee spent most of one day at the agricultural research center, Beltsville, Md., studying the research programs under way there

(Turn to EXPANSION, page 5)

## Entomologists from U.S., Canada, in Joint Meeting

DETROIT, MICH. — In a meeting that made "entomological history," the Entomological Society of America and the Entomological Societies of Canada and Ontario conducted a joint convention at the Sheraton-Cadillac Hotel here Nov. 30-Dec. 3. Nearly 1,000 persons registered at the meeting, representing a large portion of the entomological profession of the U.S. and Canada.

Dr. M. P. Jones, U.S. Department of Agriculture, Washington, was installed as president of ESA at the meeting, and Dr. H. M. Harris, Iowa State University, Ames, Iowa, was selected president-elect of the Society, to take office at the next annual meeting. Dr. Jones succeeds Dr. P. W. Oman, head of the insect identification and parasite introduction section, Agricultural Research Service, USDA.

Speakers presented hundreds of technical papers covering all phases of entomology, including physiology and toxicology; insect biology; medical and veterinary entomology; con-

trol, extension and regulatory entomology; and chemical control investigations.

In the latter section, papers were presented covering preliminary work on pesticidal residues in soils, meat, milk and vegetables.

Dr. George C. Decker, Illinois Natural History Survey entomologist, Urbana, Ill., said that residue tests on milk from dairy cows turned into pastures treated with dieldrin, DDT and heptachlor at various intervals after treatment, indicate the necessity for keeping dairy animals out of treated pastures for recommended intervals.

A paper reporting on residues from application of pesticides to alfalfa for spittle bug control was prepared by J. E. Fahey, USDA, Vincennes, Ind.; M. C. Wilson, Purdue University, Lafayette, Ind., and H. W. Rusk, USDA, Vincennes, Ind. They reported that lindane applied at .25 lb. an acre left no detectable residue in mature alfalfa when applied when the crop was 12 in. high or as late as 19 days before harvest. BHC at .2 lb. gamma an acre and Thiodan at .25 lb. an acre left no residues when applied at 3 and 6 in. of growth, but did show some residues when applied at 12 in.

T. Dumas and H. A. U. Monro, Pesticide Research Institute, London, Ont., presented a paper on chemical residues in fruits fumigated at low temperatures. They reported results from fumigation with ethylene dibromide and methyl bromide at temperatures down to 4° C. With reduction in temperature, they said, the combined residue as bromide decreased in fruits treated with methyl bromide. Permanent residues were not detected following ethylene dibromide fumigation.

That applications of aldrin, parathion, DDT and toxaphene resulted in significant increases in seed yields of birdsfoot trefoil was reported in a paper prepared by R. L. Ridgway and G. G. Gyrisco, New York State College of Agriculture, Cornell University, Ithaca, N.Y. Surveys in 1958 and 1959 indicated a sharp increase in the number of tarnished plant bugs in birdsfoot trefoil in late June, but pesticide applications brought

(Turn to JOINT MEETING, page 21)

### PRESS CONFERENCE POSTPONED

WASHINGTON — The press conference scheduled to be held Dec. 3 by Arthur S. Flemming, Secretary of the Department of Health, Education and Welfare was postponed for a later date tentatively set for Tuesday, Dec. 8. Reportedly on the agenda for this conference was a look into the effects of various antibiotics and other additives used in livestock feed.

## New Jersey Dealers Urged to Tell Buyers Of Pesticides to Read Label Instructions

NEW BRUNSWICK, N.J.—Echoes of the contaminated cranberry episode were heard at Rutgers University on Nov. 24 when New Jersey's pesticide dealers gathered for their annual conference.

Dr. Donald A. Schallock, extension weed control specialist at Rutgers, revealed why New Jersey-grown berries got a clean bill of health in the hassle over aminotriazole residues. Dr. Schallock was thrust into the midst of the cranberry furor the day that Arthur S. Flemming, secretary of the U.S. Department of Health, Education and Welfare, made his announcement that shook the industry.

Widely quoted in the newspapers, the Rutgers weed control specialist from the first affirmed his faith in the purity of New Jersey berries. For the benefit of the pesticide industry audience he gave out some details not

previously revealed in general public statements defending New Jersey growers.

He said the USDA-sponsored regional research had shown aminotriazole to be particularly effective against redroot, a weed similar to iris or hyacinth. But very few bog owners in New Jersey's cranberry growing area were troubled with redroot when they used traditional flooding methods to control weeds.

Although the New Jersey growers got a clean bill of health, Dr. Schallock nevertheless reminded dealers of the educational value of this incident. He urged them to renew their efforts to help growers see the necessity of following label directions when applying pesticides and abiding by the full limits of the law.

Cranberries made an unscheduled appearance on the program just as

they disappeared from many Thanksgiving menus. Dr. Schallock departed from the script after talking about research and recommendations for weed control in strawberries.

He reported on preliminary results on some weed control products showing promise, but said that full recommendations cannot be made until complete tests have been made as to both the safety and effectiveness of the materials.

Dr. Leland G. Merrill, extension entomologist, called special attention to a new and touchy situation caused by the establishment of a zero tolerance for heptachlor on crops such as alfalfa and red clover. He promised that the entomologists would keep abreast of the situation and would inform dealers of developments.

A serious situation for dairymen and livestock farmers in the state is the face fly—*Musca autumnalis*—for which Dr. Merrill said there is no control. These flies, similar to the common housefly, cluster in large numbers around eyes, nose and other body openings, sometimes transmitting eye infections.

Even heavy applications of space sprays safe to use around cattle have only a temporary effect, Dr. Merrill said. However, entomologists are working full-time on the face fly problem.

The New Jersey Agricultural Experiment Station will have no pre-emergence crabgrass control recommendation in 1960, Dr. Ralph Engel, turf researcher, announced. Some of the chemicals tested this year came close to being satisfactory, he said, but were considered potentially dangerous to the turf.

Hairy chinch bugs have been playing havoc with bentgrass and fescue lawns, reported John Libby, extension entomologist. As many as 300 bugs to a square foot were found in some lawns.

Peach tree canker field tests took a setback last spring when temperatures rose to 90° the day following the test spraying, Dr. Robert H. Daines, research plant pathologist reported. He said that the high temperature caused severe burning when the trees moved unusually swiftly from the de-

layed dormant to the bloom stage. The material used shows promise of control under more normal conditions, he said. In the tests last spring, "Mother Nature stacked the deck against us," Dr. Daines remarked.

## Smith-Douglass Names Sales Training Director

NORFOLK, VA.—C. E. (Chuck) Austin has been named sales training director for Smith-Douglass' Midwest sales area, announced M. W. Mawhinney, manager of the Smith-Douglass Streator, Ill., plant.

Mr. Austin was born in 1928 at Carmi, Ill. He received his B.S. in agronomy from the University of Illinois in 1950, and in 1951 received a master's degree in agronomy. He served for one year on the staff of the University of Illinois before two years active duty with the U.S. Army in Japan.

Mr. Austin joined Smith-Douglass in 1953 and has supervised Iowa and Illinois sales territories since.



C. E. Austin

## Canadians Experiment on Weed-Controlling Insects

WINNIPEG—At Belleville, Ontario, scientists of the Canada Department of Agriculture's Entomology Research Institute for biological control are discovering ways of controlling weeds by using insects that attack them.

Toadflax is not a serious problem in Ontario, where the seeds are attacked by a beetle, but it is increasing rapidly on farmlands in the prairie provinces, where this beetle does not exist.

Beetles collected in Ontario were liberated at Marsden, Sask., and Codesa, in the Peace River district of Alberta. They died out at Marsden during a severe winter, but they have increased and spread in the Peace River district.

Authorities say it is too soon to know whether the beetle will reduce the spread of the weed in Alberta. It is not expected to wipe out existing stands, since the weed spreads by underground stems, not attacked by the beetle, as well as by seeds.

Because of this, a search is being made in Europe for insects that will attack the stems and roots. If found, they will be tested intensively under quarantine at Belleville to ensure that they will not attack crop plants. Any that survive may be liberated in Canada.

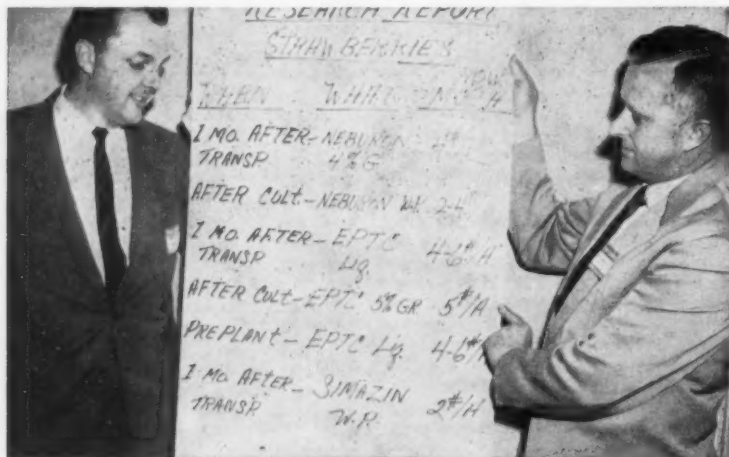
Attempts to control St. John's Wort in British Columbia by liberating three kinds of beetles obtained from abroad have been only moderately successful, and a search for other suitable insects is in progress in Europe.

A leaf-eating caterpillar is being tested at Belleville to see if it is suitable to control ragwort in eastern Canada, and studies on the insects that attack Canada thistle are in progress both at Belleville and in Europe.

## Texas Farmers Told No 'Sure-Cure' Available Against Angular Leaf Spot

MIDLAND, TEXAS — A recent farm meeting brought no hopeful news to cotton producers who have been battling vainly against the angular leaf spot.

Dr. Luther Bird, plant pathologist at Texas A.&M. College, told a large group of farmers in the Greenwood community that no sure-cure seed was now available, and that it might be another two years before one would be ready for use. Researchers have high hopes that one can be developed which will resist the various types of leaf spot.



**WEED CONTROL DISCUSSION**—Dr. Donald A. Schallock, extension weed control specialist at New Jersey Agricultural Experiment Station, New Brunswick, displays chart showing results of strawberry weed control to Robert J. Sutton, Stauffer Chemical Co. representative at recent Rutgers University pesticide dealers' conference. Dr. Schallock was a prominent spokesman in the recent cranberry controversy which involved weed control in that crop.

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## California Cattleman Claims Fertilization Of Rangeland Pays Off in Dry or Wet Years

SAN FRANCISCO, CAL.—"It pays to fertilize rangeland in both wet and dry years," according to Horace G. Kelsey, Merced cattleman who owns and operates a 7,000 acre ranch.

"I have experienced good forage increases and substantial weight gains from fertilizing my pasture and range in test areas during the past three years and plan to extend chemical fertilizer use over more acreage each year," he says.

Mr. Kelsey estimated that during the relatively wet year of 1957-58 a test area of 100 acres of fenced foothill pasture, of which 50 acres were fertilized, yielded feed amounting to a value of \$1,593.

"At least 80% of this total came from the 50 fertilized acres," he states, adding that "this meant \$526 net profit from the fertilized acreage, or over \$10 an acre." He applied fertilizer containing about 36 lb. of nitrogen and 20 lb. of phosphate per acre. Mr. Kelsey has also noted from various tests that cattle prefer to stay on fertilized acreage and often hardly touch unfertilized portions.

"During this past year, a dry one, I have continued to note the benefits of range fertilization," Mr. Kelsey said. His Merced ranch had received only about 9 in. of rainfall until this spring. Then in April 2 in. of rain fell in his area keeping the range green and growing. "My fertilized 50 acre test field carried about 100 cows and calves from February into the middle of May without supplemental feeding," he said. "I haven't seen any burning or ill effects to range plants from high rates of fertilization in dry years either, and am convinced that we must replace essential plant foods constantly if we want to carry livestock on our ranges as we did in the past."

Mr. Kelsey seems convinced that during moisture deficient years the rainfall pattern or distribution makes a great deal of difference in the amount of feed produced on fertilized rangeland. Three years ago rainfall was sparse in his area, but it sprinkled frequently keeping range moist to about a foot deep. "In this period we got about twice as much feed from fertilized acreage, as compared to unfertilized," he said. "We had applied fertilizer consisting of about 40 lb. of nitrogen and 40 lb. of sulfur per acre."

Other test results serve to sub-

stantiate Mr. Kelsey's evaluations. Range fertilization tests conducted over the past two years by the University of California Agricultural Extension Service on the Loren Miller Ranch at Red Bluff in Tehama County provide interesting results. According to the latest information, \$16.38 more income per acre was realized from fertilized as compared to unfertilized acreage. This resulted in net return of \$4.58 per acre. According to the National Plant Food Institute, because of scant rainfall this past dry season, yields from fertilization were lower than they would have been if the rainfall had been plentiful. Fertilization with adequate rainfall has been found to result in much higher grazing returns.

## USDA Urges Research On Sugar Nematodes

WASHINGTON — Breeding studies aimed at improvement of sugarcane, sugarbeet and sweet sorghum varieties, and investigations to develop control over nematodes that attack sugar crops, were rated of high priority by members of the U.S. Department of Agriculture's Sugar Research and Marketing Advisory Committee at its recent annual meeting in Salt Lake City.

Continued breeding research is needed, the committee found, to provide new disease-resistant varieties that are better adapted to mechanized farming, have improved resistance to insects and other hazards, will increase efficiency of sugar production and will improve the quality and processability of sugar crops.

Research on nematodes would seek new information on the nature and extent of injury to sugar crops by

CROPLIFE, Dec. 7, 1959—3  
nematodes and develop more efficient chemicals, cultural, and biological methods of controlling them.

## Green Bugs Make First Showing in Texas County

HOUSTON, TEXAS—For the first time in history, green bugs have been reported in Harris County. Heretofore these small grain pests have been confined to areas outside the Gulf Coast.

The bugs are usually most prevalent in winter and spring, according to Dan Clinton, Harris County agricultural agent. He says their presence often goes undetected until yellow or brown spots occur in the fields.

He says farmers in the area should check their fields regularly for the off-color spots, which are the first indication that green bugs are working in large numbers.

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fits of UAL begin. UAL provides nitrogen in both the urea and ammonium form—nitrogen that becomes available at a rate closely paralleling plant requirements. Nitrogen from Du Pont UAL is also leach-resistant; remains in the root zone long after other forms have been exhausted.

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## GOPHER CURE

BERKELEY, CAL. — California's number one rodent pest—the elusive pocket gopher—may soon find his match in a new piece of farm machinery, according to Walter E. Howard, specialist in vertebrate ecology on the Davis campus of the University of California.

"Gophers are notoriously tough to eliminate," says Mr. Howard. "They live below ground exclusively, and it is difficult to get to them with poisoned bait."

In trying to solve this problem, the Davis scientist obtained the assistance of Robert Kepner of the University's department of agricultural engineering. Mr. Kepner designed a small machine which can be attached to the rear of a tractor. The machine digs an artificial burrow 8 to 10 in. below the surface and, at the same time, it drops a steady flow of poisoned grain into the tunnel. Gophers quickly occupy the ready-made burrows and consume the tainted food. Preliminary tests on California farms have already proved extremely encouraging.

## Minnesota Schedules Regional Dealer Meetings

ST. PAUL, MINN. — Plans have been completed for the 1959-60 regional dealer conferences, announced the University of Minnesota.

Locations and dates of the meetings include:

• Northwest region—Thief River Falls, Rex Cafe, Dec. 16; Moorhead, Clay County Courthouse, Dec. 17; Alexandria, Legion Hall, Dec. 18.

• Northeast region—Little Falls, Pine Edge Inn, Dec. 16; Park Rapids, Municipal Building, Dec. 17; Cambridge, Co-op Hall, Dec. 18.

• Southwest region — New Ulm, Eibner's Cafe, Jan. 5; Worthington, Ehler's Steak House, Jan. 6; Montevideo, Hotel Hunt, Jan. 7.

• Southeast region — Rochester, 4-H Building, Jan. 5; Owatonna, Owatonna Hotel, Jan. 6; Rockford, Rockford House, Jan. 7.

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**TWENTY-FIVE YEAR AWARDS**—Gold watches were presented by Smith-Douglass Co. recently to personnel completing 25 years of service for the company. Ralph B. Douglass, chairman of the board, right, chats with R. West Leary, left, and J. Clarence Leary, brothers, who operate Leary Brothers Storage Company in Edenton, N.C. as exclusive S-D representatives. In addition to the Leary brothers, a gold watch was also presented to Delmar D. Hodges who has served the company as sales supervisor, salesman and exclusive agent in the Mount Airy, N.C. territory since 1934. The presentations were made at the annual Smith-Douglass sales meeting and oyster roast held this year at the Cavalier Yacht Club and Thunderbird Lodge in Norfolk and Virginia Beach.

## California Fertilizer Sales Show Rise For 9-Month Period

SAN FRANCISCO—Sales of commercial fertilizers in California during the third quarters of 1958 and 1959 were nearly even, but great activity during the previous half year pushed total sales for the nine months of this year to a new record high.

Total estimated sales topped one million tons within that period, when only two years ago the million mark was passed for the first time for an entire year's sales. The Bureau of Chemistry of the California State Department of Agriculture reports 1,008,997 tons sold between Jan. 1 and Sept. 30 of this year, as compared with 887,961 for the same period of 1958—an increase of around 13 or 14%.

The quarterly sales actually showed a very slight decline from 206,327 tons to 204,000 tons, the bureau reports.

The two top leaders for the year so far are the same as last year, but their respective positions are reversed. Ammonia solution 20-0-0 has taken the lead away from the mixed fertilizers, dry, group by rising from 162,698 tons to 225,384 tons. Dry fertilizers increased 195,768 tons to 204,435.

Third place position is the same—ammonium sulfate, rising slightly from 137,279 tons to 141,704.

## FLORIDA FERTILIZER SALES

TALLAHASSEE, FLA.—Sales of fertilizer in Florida during October, 1959, amounted to 171,921 tons, reported Nathan Mayo, commissioner, Florida Department of Agriculture. The total represented 110,774 tons of mixed fertilizer and 61,147 tons of fertilizer materials.

## SUPER

(Continued from page 1)

or an increase of 7% over the volume shipped during the corresponding month in 1958.

Stocks held by producing plants as of Sept. 30, 1959, totaled 281,357 short tons, or 4% less than those held on Aug. 31, 1959.

For the period January, 1959 through September, 1959, preliminary totals show that production and shipments of the various grades of superphosphate and other phosphatic fertilizers vary from comparable 1958 figures as follows:

Grade	January-September		1959 season percentage change from 1958	
	Production	Shipments	Production	Shipments
Normal and enriched	1,062,176	542,574	+13	+3
Concentrated	658,422	719,275	+5	+11
Other phosphatic fertilizers	240,923	246,280	+10	+12
Total	1,961,521	1,508,129	+10	+8

## Texas Farmers Warned Of Pink Bollworm Rise

EL PASO, TEXAS—Farmers in the El Paso Valley have been warned that pink bollworms may be on the increase. The bollworm caused as much as 90% damage to some cotton crops in 1959, and the infestation could get worse, officials say.

Recently a combined meeting of Texas, New Mexico, U.S. government and Mexico officials visited the stricken area. Some of their recommendations to farmers are as follows: Use a shredder as soon as cotton is harvested, then plow the stalks under a full 6 in. If no shredder is available, the farmer may let the stalks stand through most of the cold weather and plow them under 6 in. or more.

The fields should be watered regularly during the winter months whether the stalks are shredded or not. Another recommendation for this part of the Rio Grande Valley is to set a uniform planting time for all cotton.

## Pittsburgh Coke to Expand Sulfuric Acid Plant

PITTSBURGH, PA. — Pittsburgh Coke & Chemical Co. is expanding its Neville Island sulfuric acid plant capacity by 70%, according to W. K. Menke, vice president, chemical divisions.

Construction is underway on the new facility which will embody the latest improvement in sulfuric acid plant design, and its completion is scheduled for early 1960.

The expansion was prompted by increasing demand for the acid required by Pittsburgh's continual industrial growth, Mr. Menke said, and will enable the company to increase significantly the quantities of sulfuric acid it sells in the Pittsburgh area.



W. Coleman Edgar

James H. Neal

## Hercules Announces Two Executive Appointments

WILMINGTON, DEL.—Two major sales executive appointments in Hercules Powder Co.'s naval stores department were announced by Richard T. Yates, director of sales for the department.

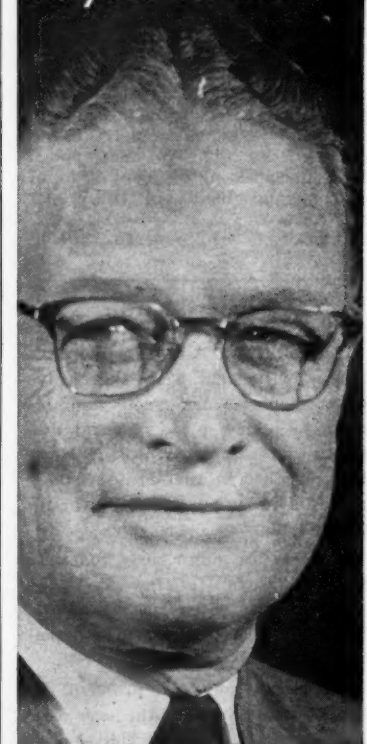
W. Coleman Edgar, now sales manager of the agricultural chemicals division, will become manager of the department's San Francisco district. This assignment includes the sale and development of the agricultural chemicals, oxychemicals, and pine chemicals divisions of the department in the West Coast states and Arizona.

James H. Neal, manager of the San Francisco district since 1952, will become sales manager of the naval stores department's agricultural chemicals division, and will devote his attention to the department's activities in the pesticides field.

Mr. Edgar has been sales manager of the agricultural chemicals division since August, 1956. He joined Hercules in 1943 as a chemist at the research center, and became a technical sales representative in 1946.

Mr. Neal, a native of Pennsylvania, joined Hercules in 1930. He served with Hercules' explosives department and cellulose products department before being named technical service representative for naval stores in 1939.

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## EXPANSION

(Continued from page 1)

relating to control or eradication of plant and animal pests. Among new approaches which scientists at Beltsville are exploring are further applications to other insects of the male-sterility technique used in eradicating the screwworm from the Southeast, possible new chemical sterilization of insects to achieve eradication or control, use of parasitic or other natural infestations to decimate natural insect populations and prevent their build-up to damaging proportions, new types of lures or attractants to achieve the same ends, and new chemicals that leave no residues and those of extremely low or zero toxicity to warm-blooded animals.

Consumers as well as producers have a big stake in strengthening research to solve problems relating to use of chemicals in agriculture, the committee discussions indicated. One of the big needs of the day, as emphasized during the meetings, is development of better understanding among people generally of the problems in agriculture and the importance of strong research programs in alleviating present as well as long-time difficulties in the interest of both producers and consumers.

The agricultural research policy committee was set up under provisions of the Research and Marketing Act of 1946. Members are appointed by the Secretary of Agriculture. Representing farmers and ranchers, state and private research organizations, and industries concerned with agriculture, all from outside the federal government, this committee is concerned primarily with broad agricultural policy problems and providing a two-way bridge between users of the department's research findings and scientists doing the research.

Attendance at the recent meeting included the three new members appointed in September: Charles Marshall, Avoca, Neb., president of the Nebraska Farm Bureau Federation; Ken E. Geyer, Hartford, Conn., manager of the Connecticut Milk Producers Assn.; and Louis Ratzesberger, Hoopston, Ill., president of the Illinois Canning Co.

Also in attendance were members Paul Armstrong, retired general manager of Sunkist Growers, Inc., West Coast marketing cooperative, Pacific Palisades, Cal.; Leroy Getting, Sanborn, Iowa, lamb producer; Dr. C. B. Lyon, director of research on chemicals for Rohm and Haas Co., Bristol, Pa.; Harrison Evans, manager of E. F. Nunn and Co., Shuqualak, Miss.; and Dr. Henry L. Ahlgren, associate director, Wisconsin Agricultural Extension Service, Madison.

Other members of the committee are: Harry B. Caldwell, master of the North Carolina Grange, Greensboro; William Applebaum, consultant at the Graduate School of Business Administration, Harvard University, Cambridge, Mass.; and Parke C. Brinkley, commissioner of the Virginia Department of Agriculture, Richmond.

Dr. Byron T. Shaw, administrator of USDA's Agricultural Research Service, served as meeting chairman. Dr. Barnard Joy of ARS is the committee's executive secretary.

## IMC EARNINGS

NEW YORK—International Minerals & Chemical Corp. reported net earnings of \$537,000 for the first fiscal quarter ended Sept. 30, 1959, equivalent to 19¢ per share on the 2,363,237 common shares outstanding, compared with a net loss of \$38,000 or 6¢ per share on the 2,340,227 common shares outstanding for the corresponding period a year ago. Sales for the quarter just ended were \$22,416,000, up 11% over the \$20,163,000 total for the first quarter a year ago. Earnings before income taxes for the fiscal quarter just ended were \$693,000.

Weed Society's  
Program Announced

WASHINGTON—Leading authorities from three nations will address members of the Weed Society of America during a general session at their third biennial meeting it was announced. The announcement was made as the program for the meeting was released by Dr. W. C. Shaw, WSA secretary and program chairman, Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Md.

The meeting will be held Feb. 22-25, 1960, at the Cosmopolitan Hotel, Denver, Colo. Hosts to the meeting will be the Western Weed Control Conference. It is reported that more than 500 scientists and others interested in weed control will attend the four day meeting.

"Weed Control Research — Past,

Present, Future," will be the title of an address by Dr. A. S. Crafts, botany department, University of California, Davis, Cal. and WSA president. It will be given at the opening of the general session Tuesday morning, Feb. 23.

Other speakers who will address Weed Society members at the general session include: Dr. E. K. Woodford, Department of Agriculture, Oxford, England, who will speak on "Weed Control Research in England"; Dr. Hans Gysin, director of research, Geigy Chemical Corp., Basle, Switzerland, whose paper will be titled "The Role of Chemical Research in Developing Selective Chemical Weed Control Practices"; and Dr. M. W. Parker, director, Crops Research Division, Agricultural Research Service, USDA, Beltsville, who will discuss "Organizational Needs in the Field of Weed Control."

In addition to the general session, 14 sectional meetings are scheduled for the February meeting. These will

be devoted to discussions of various aspects of modern weed control.

Officers of the society, in addition to Dr. Crafts, are: Dr. K. P. Buchholz, department of agronomy, University of Wisconsin, Madison, Wis., vice president; Dr. W. C. Jacob, department of agronomy, University of Illinois, Urbana, Ill., treasurer and business manager; and Dr. W. C. Shaw, secretary.

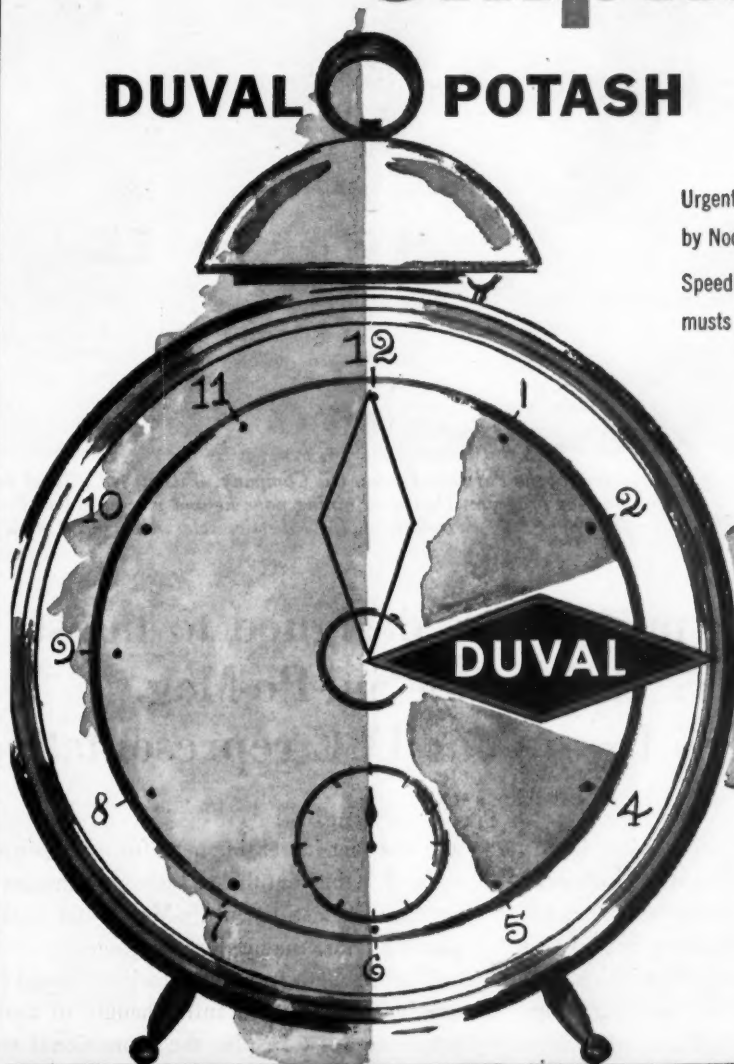
Officers of the Western Weed Control Conference, who will be hosts to the WSA meeting include: R. A. Fosse, Amchem Products, Inc., Niles, Calif., president; Dr. W. R. Furtick, department of farm crops, Oregon State College, Corvallis, Ore., vice president; and Eugene Heikes, extension weed specialist, Montana State College, Bozeman, Mont., secretary-treasurer.

## NEW FERTILIZER PLANT

STORM LAKE, IOWA — Wayne Page of Storm Lake has opened a liquid fertilizer plant at Alta, Iowa.

same day  
shipment

## DUVAL POTASH



Urgent orders shipped same day if received by Noon or possibly mid-afternoon.

Speed of handling and quality are always musts with Duval and Ashcraft-Wilkinson Co.

High Grade  
Muriate  
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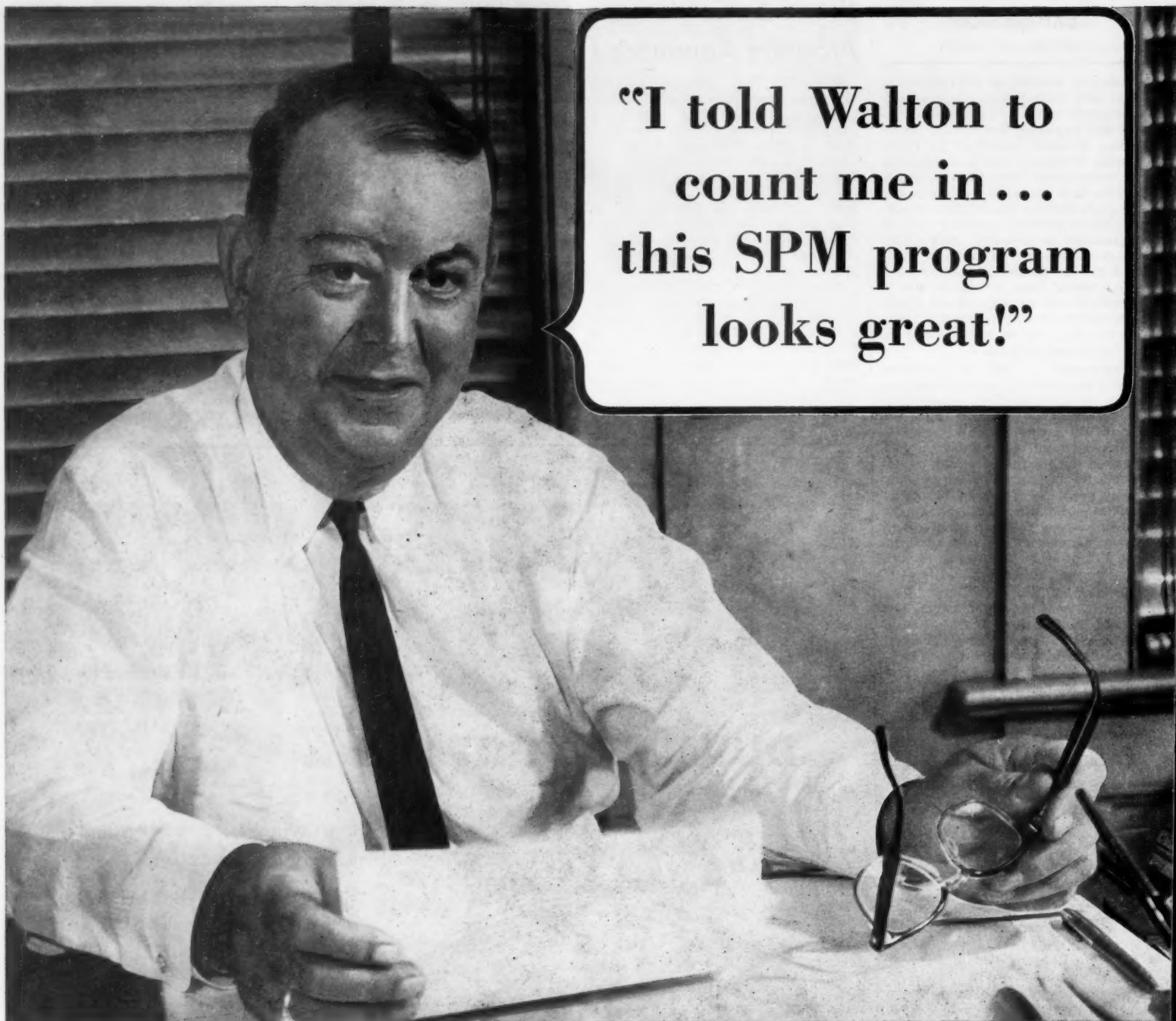
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*Mr. T. F. Bridgers, president of the Farmers' Cotton Oil Company, Wilson, N.C., is an enthusiastic supporter of the Sul-Po-Mag program. On the adjoining page he and vice-president E. R. Bridgers get full details on the 1960 SPM program from IMC district sales manager Walton Dennis.*

## **The Sul-Po-Mag program is designed to boost sales of fertilizers containing Sul-Po-Mag. Get the full story from your IMC representative.**

In many parts of the country, *magnesium* is now recognized as the fourth major plant food element. At the same time, growers consider yearly applications of a mixed fertilizer containing Sul-Po-Mag as the easiest, surest and most economical way to protect against crop losses caused by magnesium-poor soil.

What has caused this growing awareness of the need for magnesium? To a great extent, it's the result of fertilizer manufacturers tying in their local promotion with the SPM program. For several years, International has gone all out in emphasizing the need for magnesium, both to growers and to influence-groups such as county agents, vo-ag teachers, and extension specialists.

*Just what is the SPM program?* It is an educational program designed to acquaint agriculture

with the ever-increasing need for magnesium in our soils. It points out the exclusive advantages of fast-acting, long-lasting Sul-Po-Mag as the best way to guard against magnesium shortage.

You'll benefit from the growing demand for magnesium created by a full schedule of agriculture magazine ads . . . plus the promotional materials you need to complete the job in your local area. You are provided newspaper ad mats, tags, seal imprints, imprinted direct mail pieces and posters . . . all at no cost.

Your SPM advertising materials are directed specifically to the growers in your own area. The materials will discuss the magnesium fertilization problems of the major crops grown in your area.

Get full information on the SPM program through your IMC representative.

Products\*  
for growth



**50  
IMC**

1909-1959  
\*Trademark





Mr. E. R. Bridgers, vice president of the Farmers' Cotton Oil Co., greets Walton Dennis, IMC district sales manager. Let's look in as Mr. Dennis reviews the elements of the 1960 Sul-Po-Mag program.



"Mr. Bridgers, we at IMC consider this booklet a vital part of our Sul-Po-Mag promotion. It illustrates the importance of magnesium for high crop quality and top yields. We've answered requests for thousands of these booklets from all parts of the country."



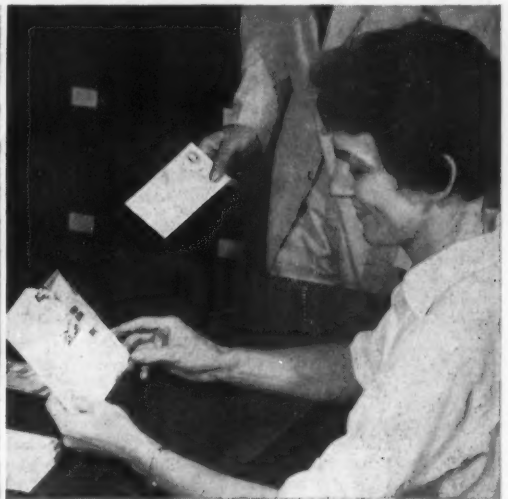
"With our new series of ad mats, you can bring the full force of the Sul-Po-Mag program right to your selling area through your local paper. These ad mats are keyed to your selling season and to the major crops in your area. They'll move mixed fertilizer containing Sul-Po-Mag."



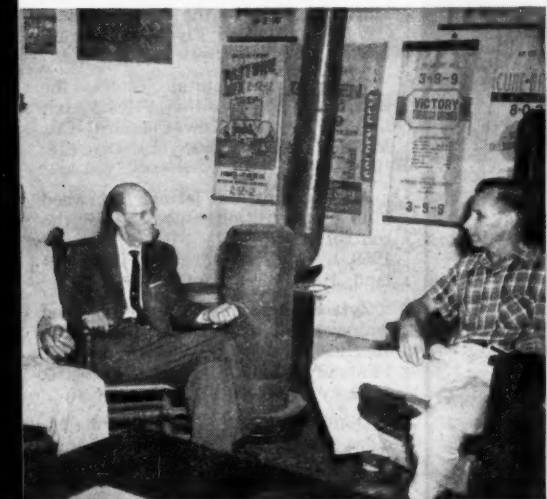
"This crop package . . . including mailers, leaflets and jumbo post cards . . . gives you maximum selling impact on the local level. These materials discuss the need for Sul-Po-Mag by individual crops . . . and they can be imprinted with your company name and address to make the promotion really yours."



"Here's something else we're doing. IMC sends out this Sulphate Bulletin every 3 months to keep fertilizer manufacturers, county agents, vo-ag teachers, extension people and growers up-to-date on the latest developments in magnesium, potash and sulphur fertilization."



"You can see we make good use of your Sul-Po-Mag mailers and envelope stuffers, Walton. We send them out with our monthly billings. The extra sales we've gotten has really been gratifying. Speaking of sales . . . let's drop in on one of our dealers."



Mr. B. A. Barnes, Jr., manager of the B. A. Barnes Cotton Company said, "We've had folks come in and ask for *Farmers* brand fertilizer because they know it contains Sul-Po-Mag. Many of our customers specify Sul-Po-Mag by name. It gives folks peace-of-mind knowing they're protected against magnesium deficiency."



"I'm glad to see you're taking advantage of our imprinting service. Growers seeing your company's name on this full-color wall chart will think of you as an expert in magnesium fertilization. Also, imprinting helps tie in your SPM materials with your total advertising effort."

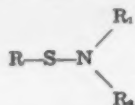


"The Sul-Po-Mag program has paid off for us where it really counts, Walton . . . in increased fertilizer sales. By putting Sul-Po-Mag in our fertilizers, such as our "Golden Gem" and "Victory" tobacco grades, we're established as being up on the needs of the growers. We're sold on the SPM program."

# PATENTS and TRADEMARKS

2,914,392

**Method of Destroying Vegetation.** Patent issued Nov. 24, 1959, to John J. D'Amico, Nitro, W.Va., assignor to Monsanto Chemical Co., St. Louis, Mo. A method of destroying vegetation which comprises contacting the plant with a toxic concentration of a sulfonamide of the structure



wherein R represents the 5-chloro-2-benzothiazolyl radical, R<sub>1</sub> represents a member of a group consisting of

hydrogen, methyl, ethyl, propyl and isopropyl, and R<sub>2</sub> represents a member of a group consisting of methyl, ethyl, propyl and isopropyl and cyclohexyl groups.

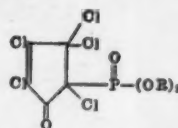
2,914,441

**Method and Composition for Pest Control.** Patent issued Nov. 24, 1959, to Murray Zakheim, Philadelphia, Pa., assignor to Pennsalt Chemicals Corp. A toxicant powder for dusting over the surface of water for controlling pests therein, said powder forming a self-propagating continuous film on the water surface on contact therewith, and comprising an intimate mixture of a minor amount of a solid, finely divided toxicant, at least 2% by

weight of a solid, finely divided film-forming material selected from the group consisting of insoluble fatty acid soaps, insoluble salts of petroleum sulfonates and insoluble salts of alkyl aryl sulfonates, from .5% to 10% of a solid, finely divided anionic surface active agent and a major amount of a solid, finely divided inert diluent.

2,914,439

**Pentachlorocyclopentene - 3 - One - 2-YL Phosphonates and Insecticidal Use Thereof.** Patent issued Nov. 24, 1959, to Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corp., Chicago.

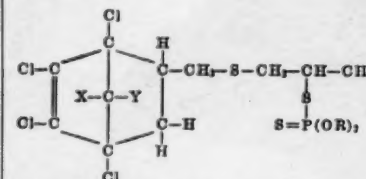


wherein R is a radical selected from the group consisting of unsubstituted alkyl, chloroalkyl, cyanoalkyl, carbethoxyalkyl, and N,N-dibutyl carbamyl alkyl containing from 1 to 14

carbon atoms. The method of controlling insect and mite pests which comprises the application of a lethal quantity of the composition of claim 1.

2,914,440

**New Compositions of Matter.** Patent issued Nov. 24, 1959, to William P. Utermohlen, Jr., Arlington Heights, Ill., assignor to Velsicol Chemical Corp., Chicago. A compound of the formula



wherein X and Y are selected from the group consisting of chlorine and hydrogen atoms and R is a saturated hydrocarbon radical containing from 1 to 3 carbon atoms. A method of destroying undesirable insects which comprises contacting said insects with an insecticidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is injurious to said insects, a compound of claim 1.

## Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of \$25 must accompany each notice of opposition.

**Abreston**, in capital letters, for fungicides and pesticides. Filed Feb. 10, 1959, by Farbwerke Hoechst Aktiengesellschaft, vormals Meister Lucius & Bruning, Frankfurt am Main, Germany.

**Dinoxol**, in hand drawn letters, for chemical preparations useful in exterminating weeds. Filed Feb. 26, 1959, by Amchem Products, Inc., Amber, Pa. First use Nov. 25, 1958.

**Trinoxol**, in hand drawn letters, for chemical preparations useful in exterminating weeds. Filed Feb. 26, 1959, by Amchem Products, Inc., Amber, Pa. First use Dec. 15, 1958.

**Forron**, in capital letters, for brush and weed killing product. Filed March 13, 1959, by the Dow Chemical Co., Midland, Mich. First use Dec. 16, 1958.

**Morven**, in capital letters, for fungicide and seed protectant. Filed March 13, 1959, by the Dow Chemical Co., Midland, Mich. First use Dec. 16, 1958.

**Kenapon**, in capital letters, for weed killing composition. Filed March 13, 1959, by the Dow Chemical Co., Midland, Mich. First use Dec. 16, 1958.

**Noats**, in capital letters, for weed killing composition, especially for the control of wild oats. Filed March 13, 1959, by the Dow Chemical Co., Midland, Mich. First use Dec. 16, 1958.

**Zytron**, in capital letters, for weed and grass killing product. Filed March 13, 1959, by the Dow Chemical Co., Midland, Mich. First use Dec. 16, 1958.

**Diquat**, in capital letters, for herbicides, desiccants, insecticides, fungicides and weed killing preparations. Filed March 24, 1959, by Plant Protection Ltd., Yalding, Kent, England.

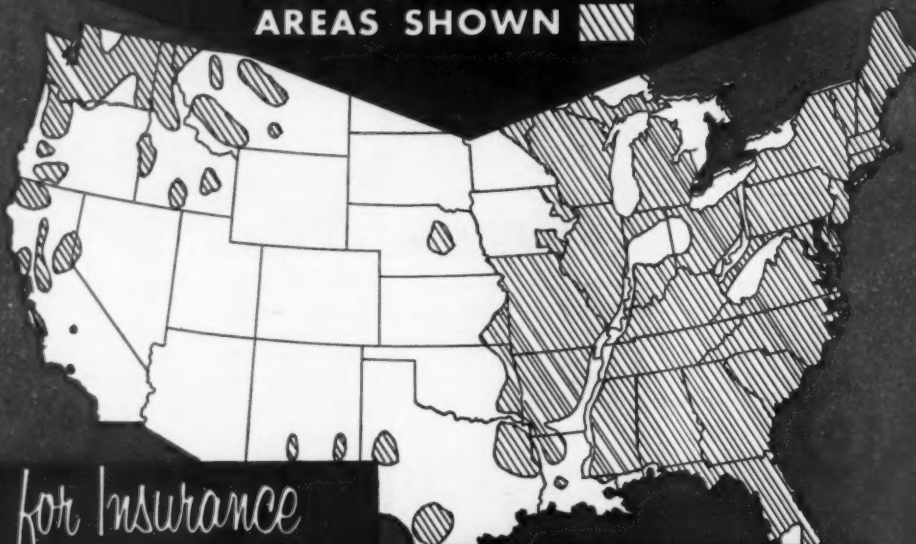
**Moly**, in capital letters, for molybdenum containing compounds used for seed treatment, as a foliar spray, as a fertilizer additive and for similar related uses. Filed June 16, 1958, by American Metal Climax, Inc., New York. First use June 4, 1958.

**Harvest King**, in capital letters, for fertilizer. Filed Feb. 12, 1959, by Virginia-Carolina Chemical Corp., Richmond, Va. First use Jan. 19, 1959.

**Wonder Worker**, in capital letters, for fertilizer. Filed May 14, 1959, by Independent Manufacturing Co., Philadelphia. First use in 1930.

# Borate your Fertilizers

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for Insurance  
SUPPLY REQUIRED  
BORON...

for Economy  
CHOOSE FERTILIZER BORATE...  
THE MOST ECONOMICAL  
SOURCE OF BORON...

For quality, yield and stands of...

### FIELD CROPS

Alfalfa, clovers, cotton, tobacco, etc.

### FRUITS AND NUTS

Apples, citrus, pears, nuts, etc.

### TRUCK AND VEGETABLES

Beets, broccoli, celery, cauliflower, etc.

For...

1. Complete Fertilizers
2. Granulated Fertilizers
3. Granular Blends
4. Liquid Fertilizers
5. Borated Gypsum and other Fertilizer Materials

Plant Food Department  
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KNOXVILLE, TENN.  
6105 Kaywood Drive  
PORTLAND, OREGON  
7134 S. W. 52nd Avenue  
W. LAFAYETTE, INDIANA

## United States Borax & Chemical Corporation

230 SHATTUCK PLACE, LOS ANGELES 3, CALIFORNIA  
80 ROCKEFELLER PLAZA, NEW YORK 20, NEW YORK







W. C. (BILL) JONES, owner of the Jones Farm Chemical Distributor, Moscow, Idaho, is shown with one of the firm's applicators. More than half of the firm's \$280,000 annual business is in fertilizer, with the remainder in other farm chemicals.

## THE SALE:

# Bringing the Customer And Product Together

By JOHN M. CURTIS

Specialist in Charge, Extension Marketing  
North Carolina State College

**Introduction**—During World War II, I spent a considerable time in the infantry branch of the U.S. Army.

My reason for the infantry reference is to introduce a pet slogan of one of the colonels in the division. At every opportunity—and some most inopportune times—he would repeat, "Remember the five P's, gentlemen: Prior Planning Prevents Poor Performance!"

Fertilizer salesmen can use the colonel's advice too.

**Plan**—develop one based on an analysis of your situation and what you want to accomplish. Shoot high!

**Program**—of action calculated to achieve your short and long-time goals.

**Preparation**—study your product, your customer and your selling procedures. Rehearse. Practice. Improve. You probably know a great deal more about your product than you do about your customers and your selling techniques. There are scores of books on selling. Have you read one? What is

the trend in crop acreages in your area? What about your farmers? Do you gear your sales techniques to fit your customer's formal educational training? You want understanding, not antagonism or frustration.

**Performance**—never ordinary, always extraordinary. Strive for perfection in your techniques. Work on it.

**Perseverance**—shrug off set backs and approach your goal from another angle. Keep on and on and on . . .

The key—learn to close the sale. It's that simple.

## A Guiding Principle

Closing the sale is a frank, honest, mutually satisfactory act if properly handled. It should lead to a lasting friendship between the parties involved.

It is much like the ideal consummation of a marriage. It results from a natural approach. From this concept I have developed what I call the "courtship and marriage approach" to closing the sale.

You have to live with the results of your close—a divorce means no repeat sales. You have to go through the trying courtship period with a new customer instead of enjoying the warmth of repeats from a satisfied friend. Any deceptive tricks or distortions of truth will come back to haunt you, in time. The seeds you sow must be accounted for. This

(Turn to THE SALE, page 16)



SPRAY TRUCKS, like the one shown above, are used by the Jones Farm Chemical Distributor.

# Fertilizer Application Keys Idaho Business

By J. I. Swedberg  
CropLife Special Writer

Jones Farm Chemical Distributor of Moscow, Idaho, is a \$280,000 business; \$160,000 of it fertilizer and \$120,000 other chemicals. Gross profit hits close to 10% annually.

The business is owned by W. C. (Bill) Jones who says that application of fertilizer and other chemicals is an important phase of his business. "If we discontinued it we would lose a large part of our income."

Included in equipment used for application of fertilizer and chemicals are five aqua ammonia applicators valued at \$1,600. Customers using anhydrous ammonia get the use of nine applicators, which are owned by the fertilizer supplier.

The price of ammonia fertilizers includes the use of applicators.

Two forms of ammonia fertilizer are used; aqua (a 21% nitrogen product) and anhydrous, containing 82% of nitrogen. Aqua is the higher priced to the extent that transportation is more expensive.

For tree and lawn spraying a high pressure sprayer mounted on a truck is used. A charge of \$2.50 per tree is made for that service and lawn spraying is done at \$12 per lawn.

The work of spraying is done by a college student who is paid one-third of the gross receipts for his services.

Lawn spraying is done for dandelion and plantain control and fertilizer is added to the spray on occasion.

Tree spraying is principally on shade trees, for the control of aphids and dormant insects.

No weed spraying service is furnished by Jones, although weed spray material to cover 30,000 acres is sold.

Dry fertilizer is applied by farmers, who own their own applicators. This business totals 600 tons annually and is sufficient to cover 4,000 acres.

An innovation in the fertilizer business is the arrangement made with two airports, that apply fertilizer and weed killer. "They store for me," Mr. Jones says, "and I keep close tab of their needs."

Most fertilizer is spread by air

when the ground is wet. The system of flying fertilizer helps sell material since farmers are more apt to want the job done when the ground is wet. They feel that the material is more effective then. Flying fertilizer is a growing practice in the area, Mr. Jones says.

Mr. Jones delivers the material to the airports, who collect the spraying bill. In the case of fertilizer, Mr. Jones does the collecting. The airports secure weed spray and parathion at dealer prices, and collect for the services.

A plane will carry about 1,150 lb. of fertilizer and will usually return to the airport for reloading, unless loading in the field is possible, in which case the farmer will haul the material.

Airports apply annually 8,000 gal. of 2,4-D, 10,000 gal. of parathion and 200 tons of fertilizer.

Rates of application for nitrogen vary from 40 lb. to 120 lb. Although anhydrous is somewhat cheaper it requires somewhat more expensive equipment.

The greatest fertilizer need is for nitrogen in the Moscow area, although sulphur in the form of gypsum, and moly are also used, the latter two on legumes, especially peas. Moly is sometimes applied as a seed treatment, requiring less material.

The company handles 1,600 tons of dry fertilizer annually, including 400 tons of gypsum and moly. Ammonia fertilizer handled totals 50,000 gal. of aqua and 250,000 lb. of anhydrous. Total acreage covered with fertilizer sold is 30,000.

The selling methods of Jones Farm Chemical Distributor include a direct mail program, personal visits, and advertising.

"We print letters," says Mr. Jones, "believing that we get better readership than we would with mimeographed circulars. First class postage adds dignity to the mailings."

"We mail our first letter in October. I compose the letter and Brea Chemical puts it out." The second letter is mailed in November and the third in January.

"About the middle of October, the farm year is over and beginning November first I spend my time mil-

(Turn to KEYS, page 11)

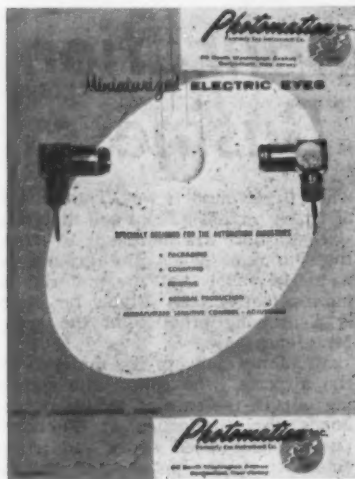
# WHAT'S NEW

## IN PRODUCTS • SERVICES • LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

### No. 6991—Electric-eye Manual

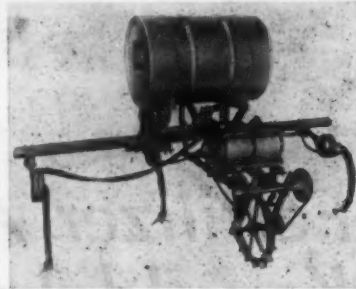
A 16-page booklet describing in detail miniaturized electric-eye applications for counting, sorting, monitoring, assembling and automatic weighing as applied to packaging, printing and general promotion, has been announced by Photomation, Inc. The equipment described in the manual ranges from direct or partial cut-off to reflector type units. It contains an expanded section dealing with specific in-plant installations. Technical and specification data includes dimensions, circuitry,



speed, monitoring and relays. For copies check No. 6991 on the coupon and mail.

### No. 6989—Liquid Applicator

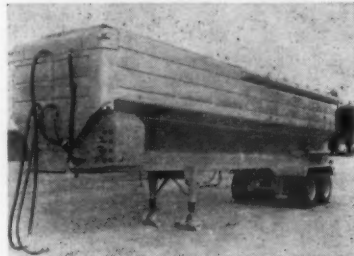
John Blue Co., Inc., is manufacturing a device called the "Liqui-Placer" for use with a tractor cultivator. The pump, which has 6, 8, 12 or 16 outlets, is capable of outputs in excess of 100 gal. per acre. The



pump is equipped with roller chain drive and can be adapted to rear tool bars, grain drills, trailer type applicators and so on, the company says. A quick change sprocket mounting makes 90 different rates of output possible. For more information check No. 6989 on the coupon and mail.

### No. 6990—Bulk Trailer

The addition of an all-bulk transport model to the Chief line of self-unloading transports has been announced by Henderson Manufacturing Co. The Model BT-300R has twin floor auger conveyors and is completely hydraulic in operation, the company says. The unit features a



push-button control system which enables the operator to control the entire unloading operation from one central control panel. The unit is available with either auger or air-unloading systems, and is built in sizes up to 40 ft. in length. For details check No. 6990 on the coupon and mail.

### No. 6992—Label Maker

Sohn Manufacturing, Inc., announces a flexographic printing press which prints and diecuts on pressure sensitive label paper, or score cuts on gum, heat seal or plain paper.



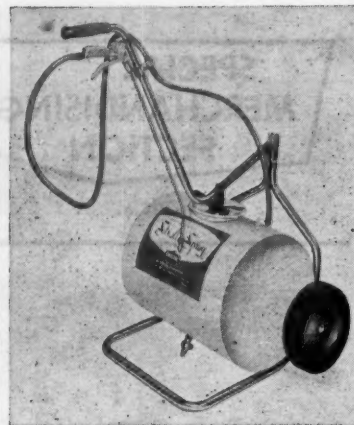
Size is 9 in. by 9 in. by 9 in., without the guard case. Weight is 40 lb. It prints 6,000 labels an hour, and colors and printing plates can be changed in seconds, the company says. For further details, check No. 6992 on the coupon and mail.

### Also Available

The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

### No. 6984—Hand Pumped Sprayer

Announcement of a 6 gal. capacity sprayer, No. 1706 in the "Stroll'n Spray" series, was made by Universal Metal Products Co., division of Air Control Products, Inc. According to the company, the 6 gal. sprayer has the largest capacity of any hand pumped, pressure type sprayer. The unit has large, rubber-tired wheels and the towing handle is designed so that it is also the pumping handle. The long leverage of the handle makes it easy to build and hold pressure in the sprayer, the company says. A special release valve prevents the build-up of excess pressure. An-



other feature is a liquid applicator built into the tank. The applicator throws a fan shaped pattern behind the sprayer. For more information, check No. 6984 on the coupon and mail.

### No. 6987—700 Cu. Ft. Transport

Sam Killebrew, Inc., announces the "Bulk-Hauler" 700 cu. ft. capacity transport. It has four buckets and is designed to haul all bulky materials. A two cylinder air-cooled engine furnishes power to the hydraulic system



which permits the operator to dump each bucket individually. The hydraulic system comes with both pressure and mechanical cut offs so that the buckets cannot be raised beyond a full dumping position of 45°. It can also be used as a bulk type spreader. More information is available by checking No. 6987 on the coupon and mailing.

### No. 6986—Herbicide, Insecticide Applicator

Noble Manufacturing Co. announces the development of a two-in-one applicator for applying insecticides and herbicides at the same time. The unit is primarily a granule-holding hopper



that is actually two hoppers in one, the company says. It mounts on all planters, listers and seeders, and in operation, one hopper compartment supplies insecticide near the seed while the other feeds the 14 in. wide band of herbicide. Named the "Simul-Caster," it has a capacity of 32 lb. herbicide and 16 lb. insecticide. For more information, check No. 6986 on the coupon and mail.

### No. 6982—Liquid Fertilizer Controls

A device for fingertip control of liquid fertilization under pressure has been announced by Flo-Mix Fer-

Send me information on the items marked:

- |   |   |
|---|---|
| <input type="checkbox"/> No. 6982—Liquid Fertilizer Controls        | <input type="checkbox"/> No. 6987—700 Cu. Ft. Transport |
| <input type="checkbox"/> No. 6983—Fertilizer Spreader               | <input type="checkbox"/> No. 6988—Spray Nozzle Manual   |
| <input type="checkbox"/> No. 6984—Hand Pumped Sprayer               | <input type="checkbox"/> No. 6989—Liquid Applicator     |
| <input type="checkbox"/> No. 6985—Business Machine Booklet          | <input type="checkbox"/> No. 6990—Bulk Trailer          |
| <input type="checkbox"/> No. 6986—Herbicide, Insecticide Applicator | <input type="checkbox"/> No. 6991—Electric-Eye Manual   |
|   | <input type="checkbox"/> No. 6992—Label Maker           |

(PLEASE PRINT OR TYPE)

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COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

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(Sec. 34.9,  
P. L. & R.)  
MINNEAPOLIS,  
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BUSINESS REPLY ENVELOPE

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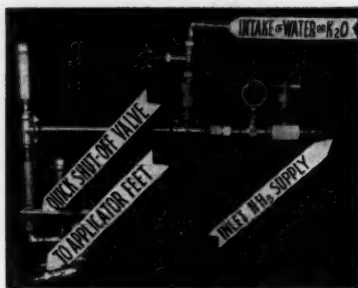
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P. O. Box 67

Reader Service Dept.

Minneapolis 40, Minn.





tilizers Corp. Called the "Brain Center," the unit converts anhydrous ammonia into aqua ammonia or combines with a potash solution to form ammonium potash, the company says. The unit is of stainless steel construction and consists of mixing chambers, valves, pressure gauge and tubes. The tubes connect by a series of hoses to the ammonia and water tanks and to nozzles which spray the liquid fertilizer into tiny furrows made by small blades. It can be installed on any type of farm tractor and gives the driver instant control over the ratio of mixture and rate of flow of aqua ammonia or ammonium potash, company literature said. For details, check No. 6982 on the coupon and mail.

### No. 6983—Fertilizer Spreader

Tyler Manufacturing Co. announces the Tyler Spreader, designed to spread high analysis fertilizer accurately down to as low as 50 lb. an acre. The unit has a fast engaging, wheel driven stainless steel conveyor that allows free shifting of truck transmission and two speed axle without affecting the rate of appli-



cation. A hydraulically driven distributor is governed for constant speed regardless of truck engine speed. It has slot type compartment hinges, no bolts and no holes in the body for fertilizer to leak out or moisture to seep in, company literature said. An angled metering gate reduces compacting of material and increases conveyor chain life, the company says. For more information, check No. 6983 on the coupon and mail.

### No. 6988—Spray Nozzle Manual

Spraying Systems Co. announces the availability of a spray nozzle manual for liquid fertilizer sprayers. The extensive catalog contains illustrations, blueprints, statistical data, specifications and information about spray nozzle design and application. All of the company's line of spraying equipment is described. For copies of the catalog, check No. 6988 on the coupon and mail to this publication.

### No. 6985—Business Machine Booklet

"Your Keys to Better Business," a free 35-page illustrated booklet has been made available by the Victor Adding Machine Co. The booklet, written for owners and executives of both large and small firms, features latest model Victor adding machines and calculators with information on applications, features, specifications and protective maintenance. For copies, check No. 6985 on the coupon and mail.

#### FIRM STARTED

PHOENIX, ARIZ. — William Thorpe has started the new firm of A-1 Fertilizer Co., at 3600 South 18th St. here.

### KEYS

(Continued from page 9)

ing around and making good will visits," he says.

Mr. Jones uses a low pressure selling system on his visits. At the first call no selling effort is made. "At the second visit we hand out calendars, or something like that, and make a more concrete approach. At the third visit in January and February we try to get definite commitments. We have most of our orders in by March first."

In the advertising program an expenditure of a little under \$1,200 a year is made for newspapers and radio.

"We have no storage problem," Mr. Jones says. "Our suppliers do not give storage discounts, nor do we. Furthermore our laws relating to taxes on inventories make it necessary to work our carry overs as low as possible by January first."

Last year they amounted to \$3,500.

"We get our merchandise in about the time it is due to be delivered. For example, of three carloads recently received, all but a half carload was delivered from the car. We expect to get a car of gypsum soon and by means of radio announcements we expect that it will all be delivered from the car."

Jones Farm Chemical has a small delivery truck, but there is no regular policy of making deliveries. Farmers pick up their own orders.

"Our credit policy," says Mr. Jones, "calls for settlement in 30 days, or 2% discount for cash in 10 days."

"Too many, about 30%, run over 30 days. They follow the old policy of buying in the spring and paying in the fall."

"In the first five years of our operation we charged off two accounts totalling \$68; in the following two years an additional \$300 was charged off." That obviously

is not catastrophic, but recently Mr. Jones culled out 18 bad risks. "There is no use in my going broke, just because they are," he says.

Mr. Jones feels that the discount of 2% is the biggest encouragement to pay up.

A guide to the need for chemicals is the cropping system in the area. Fertilizer, including nitrogen, is used on the grain and gypsum and moly on peas.

With regard to chemicals, peas are sprayed for aphids, and all grain for weeds. This is in addition to the tree and lawn work done.

Requisites for success in the chemical business, according to Mr. Jones are: 1) taking a personal interest in the patron, 2) fair dealing, 3) service and 4) advertising.

"I think this business definitely will grow," says Mr. Jones, "and those who have used materials will use more, and many of those who haven't will make a start."



Growers of specialty crops like citrus and tobacco



Golf club managers



Home owners who take pride in their lawns



Merry estates

They all  
specify  
**NATURAL  
ORGANICS**  
in their  
fertilizer

Natural organic nitrogen is nature's own formula for supplying nitrogen to growing plants. It supplements the chemicals in premium grade fertilizers . . . provides a bonus ingredient with established sales appeal.

There is no better source of organic nitrogen than SMIROW TANKAGE. It is 100% natural organic—not a synthetic. SMIROW

provides controlled release of plant nutrients for long-lasting, uniform feeding.

- Uniform In Color And Texture
- No Dust Problem
- No Fire Hazard
- Easily Identified In Mixed Fertilizer

Write for free samples. Let us figure the cost of SMIROW delivered to your plant.



A P R O D U C T O F T H E  
**SMITH-DOUGLASS**  
COMPANY, INCORPORATED • NORFOLK 1, VIRGINIA

SCHOENFELD AND MCGILLICUDDY



# OSCAR & PAT

The dark faced, short man, wearing a gray felt hat, came slowly into the salesroom of the Schoenfeld & McGillicuddy store, swinging a bulging black briefcase. He had a pleased, confident and knowing look, as though the world was his oyster, because he was something special, considerably more than other men.

His dark eyes rested speculatively on plumpish, ulcerish Tillie Mason, who sat typing. "Is the chairman of the board in?" he asked ingratiatingly, with an expectant expression on his face that Tillie would appreciate his wit.

But Tillie did not like the fellow. She did not even smile. "This is a partnership," she said slowly. "One of the partners—Oscar Schoenfeld—is over there." She pointed at Oscar seated at the desk figuring discounts, his rigid back giving an impression of business precision, sturdiness and efficiency.

"Thank you," beamed the salesman confidently. With an expression in his dark eyes like that of a cat approaching an unsuspecting canary, he moved over to the railed enclosure, reached over and pressed the gate slot, and let himself in.

Oscar turned in his swivel chair

just as the salesman pulled over a chair from Pat's desk and got into it. "Good morning, Mr. Schoenfeld," he said with his calculating smile. "Ah, I see you are busy at your work. What a wonderful attribute for a man to have in these times—the ability to work."

The salesman with a sly look in his eyes waited for the answering chuckle of agreement, but none came. There was only Oscar's icy stare, and behind on the wall the sign "You here again? Another half hour shot to —"

The salesman kept smiling confi-

dently. He knew how to soften them up. He took out a cigar from a breast pocket and handed it to Oscar as though tendering him a \$10 present. "Have a cigar," he said softly. "Genuine Havana. Ah, the taste."

"I don't smoke," Oscar said tersely.

A mock look of hurt came over the salesman's dark, tanned face. "Ah, a man who thinks for himself. I like that. Mr. Schoenfeld, I am Maximilian Abercrombie, of the Abercrombie Specialty Co. Just call me Max for short." He reached for his black briefcase and began unbuckling it, his eyes never leaving Oscar's face. "I want to show you something which will please your customers—and—" he held up a finger and smiled, "will bring you more business."

"We are not buyink nottink!" Oscar said sharply.

The salesman smiled indulgently, like a mother with her child. "Pencils like this with your firm name on them will make farmers think of you each time they pick one up," he purred softly, his eyebrows lifted knowingly. "And they use pencils a lot nowadays figuring how to make a profit. Huh?"

"No!" Oscar barked. "We are not buyink!"

"Or this nice ball point pen, with your name on it?" suggested the salesman softly, like a doctor comforting a nervous patient. "Costs so little and every member of the farm family will use it and think of you. Oh, what an inexpensive way to advertise—12¢ per pen in lots of 500."

Oscar looked up at the clock. "I haf work to do," he announced coldly.

"A desk pad?" asked the salesman expectantly. He saw this was another bad guess, then he suggested "A folding ruler-yardstick? A key ring? How they will love these things which you, a leading merchant, will give them."

"I don't believe in givink anybody nottink," growled Oscar coldly. "If they want somethink, let them buy it."

The salesman smiled again, the smile of a patient wife trying to soothe the little-boy attitude of a pouting, irritated husband. He reached into his bag, brought out a rolled piece of paper.

Roguishly, he cast a glance at Tillie typing rapidly, then lowered his voice. "Mr. Schoenfeld," he purred, "take a look at this. This is something farmers will notice."

Oscar looked and blinked. At the top of a big calendar was the picture of a woman in natural color lying on a couch. For a moment Oscar thought this woman with so many curves and bulges, wore no clothes at all—then he saw she had perhaps a few inches of cloth on her.

The salesman was smiling, leering up at Oscar. "How's that?" he purred. "We can make a real rate for you on 500 of them. I can have them for you by Dec. 15."

This was the moment the salesman had been waiting for. This was the give away piece that always got attention. This was the one that usually brought the order; few prospects could resist the appeal of such a calendar.

"No!" Oscar thundered suddenly. "Schtick that calendar in your bag and get out of here."

The salesman lost some of his confidence. He stared at Oscar puzzledly, as though he had encountered someone he could not understand.

"Get out!" reiterated Oscar standing up. "You ought to be ashamed of yourself sellink calendars like that. We do not have to tease our customers with pictures of naked women. We sell fertilizer for what it is—fertilizer. No gimmicks, nein."

By this time the salesman had packed his bag. A sneer on his face, he began moving haughtily toward the door. Oscar followed him threat-



## Grace Urea Prills are

# PRE-SOLD

Specify Grace because:

- ✓ Consistent Advertising Assures Ready Acceptance
- ✓ Plant Location Assures Speedy Service

When you sell Grace Urea Prills, you sell a preferred product. That's because it is a Grace policy to use consistent advertising. This advertising is directed at the volume users of urea. It keeps Grace Urea pre-sold.

Then, too, the ultra-modern Grace plant at Memphis is ideally located. The excellent transportation facilities assure you of prompt, speedy service.

When you order urea, specify Grace. Get the urea backed by "A World of Experience."

FOR FOLIAR APPLICATION, new Agricultural Grade GRACE CRYSTAL UREA Fertilizer Compound is ideal, because it has a low biuret content, (Less than 0.2%), yet is concentrated nitrogen (46%). Order by name . . . GRACE.

**Grace Chemical Company**  
A DIVISION OF W. R. GRACE & CO.  
MEMPHIS, TENN.

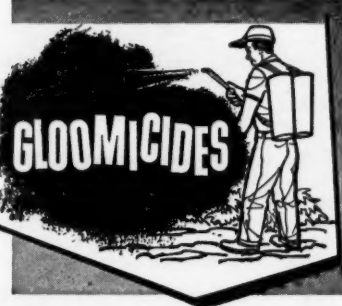




eningly. "People like you should be put in jail!" he snapped angrily. "How can people raise decent families, ah, when skunks like you go around with dirt like that? I bet you ain't even a family man. I'll bet you don't even go to church, you— you—"

The salesman was gone and Oscar stomped back up the aisle. A beaming Tillie met him. "Why, Oscar!" she said. "You were wonderful. Wonderful! Oh, he had it coming to him—him and all others like him." She looked at him wonderingly, as though seeing something she had never seen before.

"Ach, we lost a lot of time," he said gruffly. "I haf to get back to my discounts. Andt you have a lot of typing to do. We haf to earn our pay." He went to his desk and furiously began to figure again.



"Mummy," asked the child, "why doesn't daddy have hair on his head?"

"Daddy thinks a great deal, dear."

The child mulled this over and then wanted to know, "Mummy, why do you have so much hair on your head?"

"Shut up and eat your breakfast."

★

Remember . . . telephone poles hit cars only in self defense.

★

Two hillbilly draftees were taking their first train ride. A vendor came through the car and each bought a banana, a fruit they had never seen before. One of them had just started to eat when the train went into a tunnel.

"Lem," said the one in strained voice, "you started to et yours, yet?"

"No," replied Lem.

"Then don't—I started to et mine and I've gone blind."

★

"Your honor, I was not intoxicated."

"But this officer says you were trying to climb a lamppost."

"I was, your honor. A couple of big crocodiles were following me, so who wouldn't under the circumstances?"

★

The father was speaking words of wisdom to his son. "Remember," he said, "when a woman says 'no' she means 'maybe,' and if she says 'maybe' she means 'yes.'"

"I know," retorted his son. "But what does she mean when she just says 'phooey'?"

## what's NEW?

**Broyhill**

Heavy Duty  
Trailer  
Sprayer  
230-gallon  
Plasti-Chem  
Tank



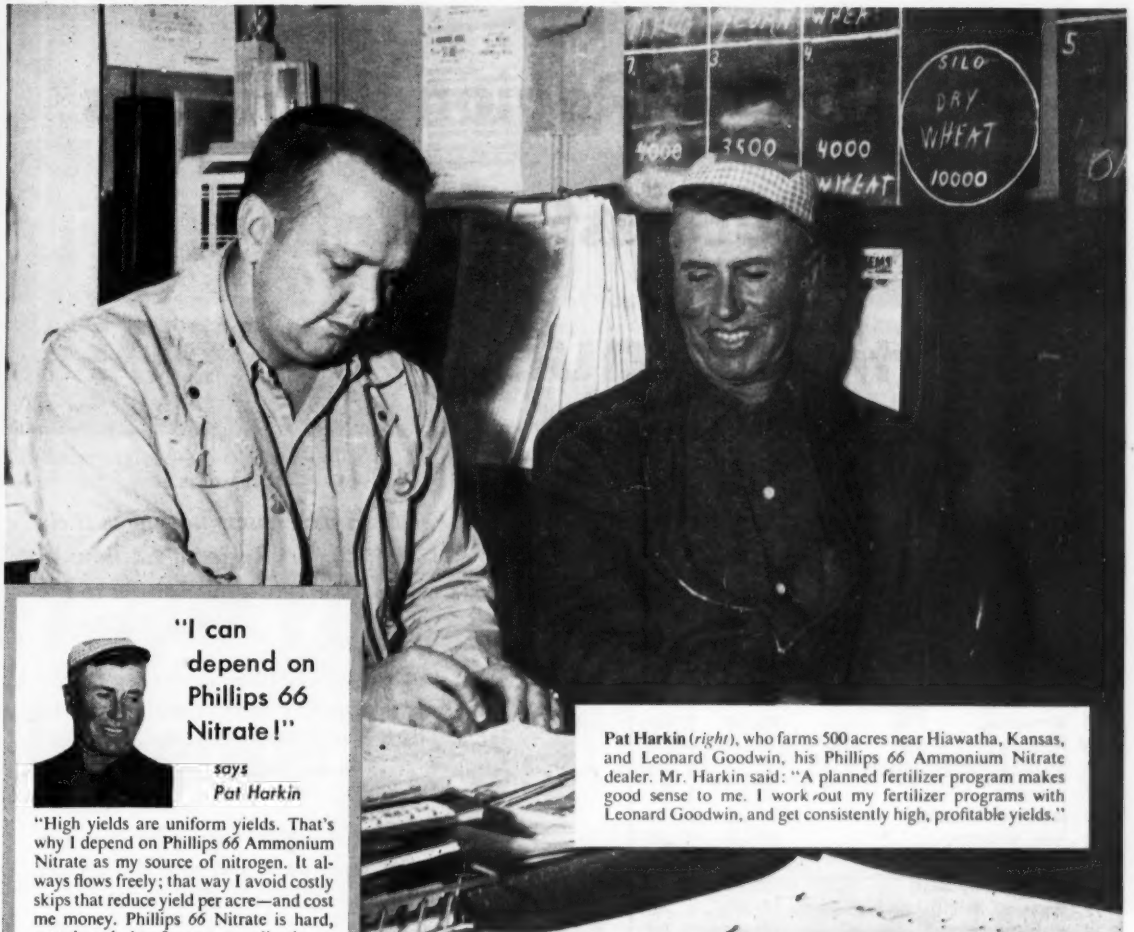
Ideal for ap-  
plying cor-  
rosive  
chemi-  
cals.

Nurse  
Tanks in  
500 and  
1,000 gal.  
sizes  
available.

Write to:

the **Broyhill COMPANY** DAKOTA CITY, NEBRASKA

**PHILLIPS 66** ads like this appear regularly.  
in **CAPPER'S FARMER, PROGRESSIVE FARMER, FARM JOURNAL,**  
**FARMER-STOCKMAN** and **FARM and RANCH . . .** part of a  
continuing program to help dealers sell more mixed fertilizers  
and **PHILLIPS 66 AMMONIUM NITRATE.**

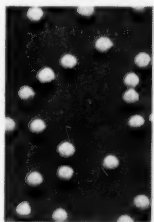


"I can  
depend on  
Phillips 66  
Nitrate!"

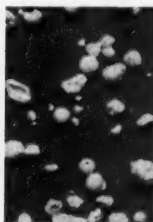
says  
**Pat Harkin**

"High yields are uniform yields. That's why I depend on Phillips 66 Ammonium Nitrate as my source of nitrogen. It always flows freely; that way I avoid costly skips that reduce yield per acre—and cost me money. Phillips 66 Nitrate is hard, round and dry for easy application—stores well, too."

Both products shown 2 times actual size



New Phillips 66  
Ammonium Nitrate



Ordinary  
Ammonium Nitrate

### Proof of the difference

in these unretouched photographs. And this difference will pay off for you—when you apply Phillips 66 Ammonium Nitrate. You get round, hard, dry and uniform prills that stay that way in storage and during application. This means uniform distribution, so that you avoid costly skips that cut your yield per acre. It will pay you to ask for Phillips 66 Ammonium Nitrate, with 33.5% nitrogen.

## Planned fertilizer program helps him maintain higher yields

Mr. Harkin said: "Both my wheat and corn yields have been substantially improved through the use of fertilizer. Of course, I try to follow other good agricultural practices—but it's the fertilizer that makes all these practices pay off."

"On wheat, I have averaged 40 bushels since starting a program of 13-39-0 applied pre-plant and Phillips 66 Ammonium Nitrate applied as a top dressing. On corn, my average yield is around 85 bushels per acre. I use 13-39-0 and 300 pounds of Phillips

66 Ammonium Nitrate plowed down on my corn.

"Like any other farmer, I'm in the business to make money. That's why my fertilizer programs always include Phillips 66 Ammonium Nitrate."

For your fertilizer requirements, it will pay you to depend on the combination of Phillips 66 Ammonium Nitrate . . . and the friendly assistance of your fertilizer dealer. See him today about a planned fertilizer program—using Phillips 66 Ammonium Nitrate and his high quality mixed grades.

"A good name to grow by"



**PHILLIPS PETROLEUM COMPANY.** Sales Offices: Amarillo, Tex.—First Nat'l Bank Bldg. • Atlanta, Ga.—1428 West Peachtree Street, Station "C" P. O. Box 7313 • Bartlesville, Okla.—Adams Bldg. • Chicago, Ill.—7 South Dearborn St. • Denver, Colo.—1375 Kearney St. • Des Moines, Iowa—6th Floor, Hubbell Bldg. • Houston, Tex.—6910 Fannin Street • Indianapolis, Ind.—3839 Meadows Drive • Kansas City, Mo.—201 E. Armour Blvd. • Minneapolis, Minn.—215 So. 11th St. • New York, N. Y.—80 Broadway • Omaha, Neb.—3212 Dodge St. • Pasadena, Calif.—317 North Lake Ave. • Raleigh, N. C.—401 Oberlin Road • Salt Lake City, Utah—68 South Main • Spokane, Wash.—521 East Sprague • St. Louis, Mo.—4251 Lindell Blvd. • Tampa, Fla.—3737 Neptune St. • Tulsa, Okla.—1708 Utica Square • Wichita, Kan.—501 KFH Building.

# FARM SERVICE DATA

## EXTENSION SERVICE REPORTS

On heavier soils at least, it's entirely okay to put anhydrous ammonia on fields in fall, say University of Minnesota experimenters. Tests show that applying this fertilizer in fall was just as good as putting it on in spring. Corn yielded just as high and contained just as much crude protein as it did with spring application.

Soils scientist J. M. MacGregor made the tests a few years ago in southern Minnesota. Some other findings:

● On some fields, especially those low

in fertility, applying nitrogen in late April was a bit less effective in increasing corn yields than was applying the same amount as sidedressing a month or two later.

● Nitrogen fertilizer did not increase suckers on corn plants. Nor did it delay corn maturity.

● Concentration of crude protein went up as a result of applying nitrogen. This, combined with total yield increases, substantially boosted per acre yields of crude protein. In other words, nitrogen-fertilized corn sup-

plied more protein and feed value for cattle and sheep.

● Where corn got nitrogen, it often paid to add some phosphate and potash, too.

● Nitrogen applied a year earlier usually had some benefit for crops in the same field during the following year, as well.

★

If lodging of corn plants has damaged crops and cut profits this fall, plans should be made now to reduce losses and to grow money making yields next year, advises the Midwest division of the National Plant Food Institute.

"First step in a planning program should be a soil test this fall," says the NPFI, in a statement summarizing recommendations by Corn Belt soils and crops specialists.

"The soil test will tell which nutrients are needed for healthy, high-

profit yields. Lack of plant food can be an important cause of lodging. Stalk rot develops more rapidly when the soil's fertility level is out of balance. That is particularly true when the corn plants are starving for potash.

"On the basis of the soil test, needed nutrients can be added before and during planting next spring."

NPFI lists these additional steps for reducing losses from lodging, based on suggestions by Dr. Herbert Johnson, University of Minnesota plant pathologist:

1. Selection of a corn hybrid variety that has strong standing ability and is least likely to lodge.

2. Use of measures for controlling insects and diseases.

3. Giving close attention to the corn plant population in fields. Stalk populations up to 18,000 per acre are satisfactory, but extremely high populations can make lodging worse.

★

Wheat yields can be increased profitably by using more nitrogen, according to test plots at Texas Technological College.

On one 20-acre irrigated field the application of 100 lb. of nitrogen per acre increased yields by as much as 10 bu. Plots treated with 60 lb. of nitrogen brought an increase of 5 bu. per acre.

As based upon selling price of the grain, the heavily fertilized plot brought an extra return of \$20 per acre, while the plot with 60 lb. nitrogen brought \$10 per acre extra.

There were also other benefits, according to Dr. A. W. Young, head of the Texas Tech Agronomy Department. These would be derived from the nitrogen application which would partially carry over to the next crop.

★

Farmers may never move mountains, but they can do a lot about the shape of their land.

A pair of farm engineers foresee land forming in many areas as a way to boost crop yields and make land easier to farm. Lee Hermesmeier, U.S. Department of Agriculture engineer, and Curtis Larson, University of Minnesota agricultural engineer, report on this practice in the current issue of "Minnesota Farm and Home Science," a University publication.

There's equipment now to do the work. A farmer can actually reshape the land surface at reasonable cost—to make better use of water. It's for land that has a lot of shallow depressions, where farmers need to haul soil from high spots to fill the low ones.

The practice shows promise for land that has little or no slope—like the Red River Valley. Mr. Hermesmeier and Mr. Larson tried it in Wilkin County recently.

The system they used meant digging widely spaced field ditches across the slope. Rows were planted perpendicular to and across the ditches, in the direction of the greatest slope. Between the ditches, the land is shaped and smoothed so each row drains to a ditch.

The ditches are wide and shallow enough so they are easy to cross with farm machinery.

Mr. Hermesmeier and Mr. Larson did the ditching and rough grading with a crawler type tractor and dozer blade, and with a pull-type scraper which would move 4.5 yd. of earth at once.

It will take several years for the engineers to draw all their conclusions on the land forming. They hope to find the most efficient combination of grade and slope length, effect of topsoil removal on crop yield and moisture-holding capacity and whether earth-moving equipment causes a compaction problem.

## 24 State & Regional Editions of Successful Farming starting January 1, 1960!

24 State & Regional Editions of Successful Farming—in January 1960

Edition	States	Circulation*	B&W Pg. Rate
1	Iowa, Illinois, Indiana, Nebraska, Minnesota, Wisconsin	608,297	\$3,955
2	Illinois, Indiana	218,956	\$1,860
3	Iowa	128,670	\$1,160
4	Minnesota	116,748	\$1,050
5	Nebraska	67,646	\$ 625
6	North Dakota, South Dakota	82,225	\$ 760
7	Wisconsin	76,277	\$ 705
8	Iowa, Illinois, Indiana	347,626	\$2,780
9	Iowa, Minnesota	245,418	\$2,085
10	Iowa, Nebraska	196,316	\$1,720
11	Minnesota, Wisconsin	193,025	\$1,690
12	Minnesota, North Dakota, South Dakota	198,973	\$1,740
13	North Dakota, South Dakota, Nebraska	149,871	\$1,350
14	Illinois, Indiana, Ohio	320,412	\$2,565
15	Iowa, Minnesota, North Dakota, South Dakota, Nebraska	395,289	\$3,065
16	Iowa, Illinois, Indiana, Wisconsin, Minnesota	540,651	\$3,785
17	Illinois, Indiana, Ohio, Wisconsin, Michigan	464,985	\$3,370
18	North Dakota, South Dakota, Nebraska, Kansas	217,241	\$1,850
19	Iowa, Nebraska, Kansas, Missouri	339,268	\$2,715
20	Middle Atlantic, New England	138,385	\$1,245
21	Ohio	101,456	\$ 915
22	Michigan	68,296	\$ 630
23	Kansas	67,370	\$ 625
24	Missouri	75,582	\$ 700

\*A.B.C. Publisher's Statement, 12/31/58

Fertilizer advertisers now have their choice of 24 State and Regional Editions of SUCCESSFUL FARMING—in addition to the National Edition.

In these editions, fertilizer advertisers for the first time in a quality farm magazine, will be able to localize copy for local markets, list local dealers, mesh their media with the marketing map.

Where markets require extra effort, you can intensify sales messages, and with this greater flexibility feature price as well as product.

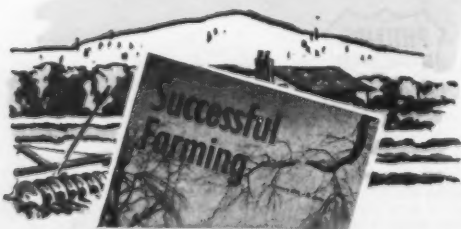
The new SF editions will enjoy the prestige and power of SUCCESSFUL FARMING...with its influence based on 57 years of service, helping farmers get bigger yields and output, earn more money...quality reproduction in black and white or color...and a quality audience with big farms, averaging 336 acres.

SF farm subscribers had an estimated average cash income from farming of around \$10,000 for a decade, which in 1958 reached \$12,120—are your finest fertilizer prospects!

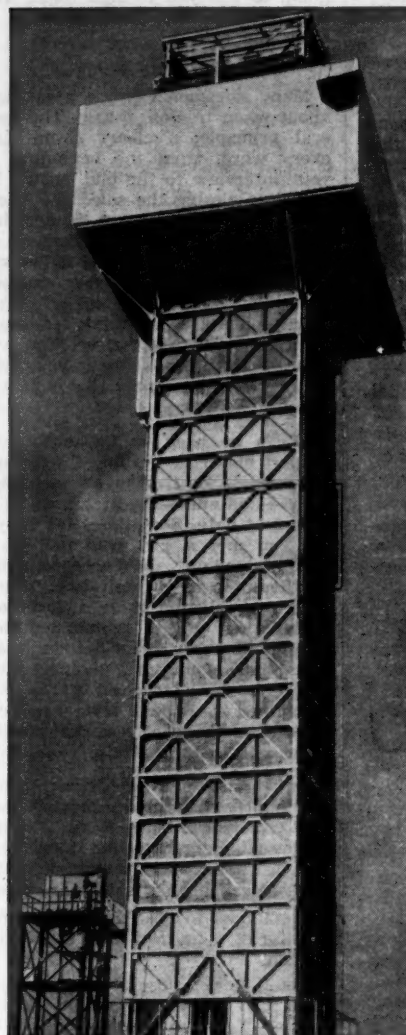
In 1960, use the new opportunities in SUCCESSFUL FARMING for greater sales!

Full facts, any SF office.

MEREDITH PUBLISHING COMPANY, Des Moines...with offices in New York, Chicago, Atlanta, Boston, Cleveland, Detroit, Los Angeles, Minneapolis, Philadelphia, St. Louis, and San Francisco.







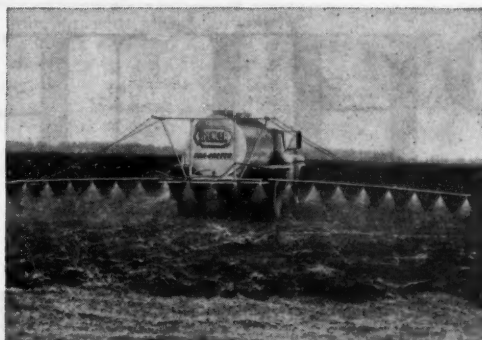
## Now! There are 4 Spencerizers:



1 Spencer "Mr. N" Ammonium Nitrate.



2 Spencer 45 Urea.



3 URA-GREEN\* and ANA-GREEN\* Solutions.



4 Spencer Anhydrous Ammonia.

This new urea prilling tower at Spencer's Henderson Works, Henderson, Kentucky — together with other Spencer facilities — now

enables Spencer Chemical Company to produce and market a complete "department store" of all four major nitrogen fertilizers.

# How 'Don't Just Fertilize . . . Spencerize' Can Help Increase Your Nitrogen Sales:

All around you, there's a sprightly new jingle that's catching the fancy of nearly every farmer in your trade area and winning big new nitrogen sales for you. This jingle is: "Don't just fertilize . . . *Spencerize*!" And it's Spencer Chemical Company's theme for the most concentrated and far-reaching promotion in their history.

"Don't just fertilize . . . *Spencerize*" is designed to build sales for you two ways. First, it makes the farmer want nitrogen—*Spencer* nitrogen! And second, it tells him that no matter what type of nitrogen he

wants, Spencer makes it. A major part of Spencer's new promotion is the emphasis on all four *Spencerizers*—Spencer "Mr. N" Ammonium Nitrate . . . Spencer URA-GREEN and ANA-GREEN Nitrogen Solutions . . . Spencer Anhydrous Ammonia . . . and Spencer 45.

All the leading farm magazines and key farm radio stations are carrying "Don't just fertilize . . . *Spencerize*" to farmers in your trade area. In song or in print, Spencer's exciting new promotion means extra nitrogen sales for you.

### December Is Your Last Chance!

December is your last chance to take advantage of the off-season storage discount for Spencer "Mr. N" Ammonium Nitrate! Contact your supplier now for a December shipment of "Mr. N" by truck or rail — or arrange to pick up your "Mr. N" at a Spencer warehouse sometime in December.

\*Trademark of Spencer Chemical Company



## Don't Just Fertilize . . . Spencerize

SPENCER CHEMICAL COMPANY, Kansas City, Missouri

Producer of 4 Nitrogen Spencerizers for hungry crops

## THE SALE

(Continued from page 9)

seems particularly appropriate when talking to a group of outstanding fertilizer salesmen.

Some time after I wrote these thoughts I noticed a short statement along the same lines on the editorial page of the Raleigh News and Observer:

"The legal admonition, 'Let the Buyer Beware,' usually relates to intricate real estate transactions and not the buying and selling of household oddments and rudimentary commercial commodities.

"But every day the complaint is heard that many salesmen, agents and various company representatives evidently feel there will be only one crack at a customer. So, hit him as

hard and as fast as possible.

"The old doctrine of satisfying the buyer, within reasonable limits, was based on good judgment. A reservoir was built for the future. So it was that the same store or agencies served successive generations of the same purchasing family . . .

"Buying and selling has been a warm personal relationship. Maybe, the monumental quantity of goods and customers obviates the old personal touches. But neither salesmen nor agents nor buyers are machines. Life isn't so complicated that people doing business together can't think of mutual welfare and, thereby, build lucrative and socially rewarding relationships for the tomorrows."

We will never mechanize human relationships. We should be willing

to live with today's actions tomorrow.

Why are some of you more successful, more outstanding, than others? Your total sales approach is one possible reason. However, you can be the world's best fertilizer salesman up to the close and slide off into the second-rate section because you don't close the sale with skill. I have a friend who courted the same girl for six years. He courted like an expert. He certainly had plenty of practice, and I gave him some excellent advice. He really wanted to marry the girl, but couldn't face the stark reality of asking her. He wanted that order, but he couldn't close the sale without asking, and she wouldn't . . . but you get the idea. Does this parallel apply to any of you? Luckily, the girl finally maneuvered the boy into such a state of frustration that when she suggested marriage he accepted—and thinks to this day that he proposed.

But very few of your customers are

going to ask you to sign them. You will have to ask; you will have to close the sale.

### The Bare Facts

Many salesmen worry a great deal about when to close a sale. The general principle is clear: Every act, every word, from the beginning of your interview to the end, should be aimed at closing the sale. The trick, the mark of the expert, is deciding the appropriate, precise moment to actually close. Note that I didn't say "attempt to close." You're doomed if you let the word "attempt" enter your thoughts. Don't think for a moment that you won't close. You will close—more times than you ever dreamed—if you know that you will close.

Let's go back to Casanova, an expert closer in the finest sense of the word. In Casanova's courting days—and ours—the first close was the first date. Sometimes it's easy. If you met a girl who had just been "stood up", she'd accept a date without too much hesitation. True, she probably did it as a form of retaliation or ego rebuilding, but we didn't worry about details. And, sometimes you'll hit a prospect just after he has received a real or imagined raw deal from another salesman. You can close that customer with ease in spite of yourself.

But these are the exceptions. Usually the girl you wanted was not "stood up." Others wanted her, too. Usually your customers have not received a raw deal from another salesman. The other salesman wants his business too.

You'll have to close the sale through the use of your own inventive imagination.

You'll never close the sale if you don't try. Scared? Sure, in the beginning. You may try to close at the wrong time. How do you handle an error of this type? Think back to your courting days again. You tried certain maneuvers, but you always had a plan to fall back on in the face of opposition, regroup your forces, and move in again. A slap was a definite, temporary set back, but a simple no was really interpreted as a maybe. Very few customers will slap you. Why let a simple no throw you into defeat now? You didn't then. Pull up your reserves. Have an additional service ready, a fresh idea, or a demonstration—something to permit you to keep on keeping on.

And remember: The customer expects you to ask him to buy, one way or another. He knows that you're a fertilizer salesman. You're not talking to him because you want to talk to someone. You're not lonely. You're a fertilizer salesman. Of course, he expects you to ask him to buy. Go ahead. Close him.

Many sales consultants emphasize the "touch all the bases" idea. They really mean give your close a solid base of complete understanding. The communication of ideas and information is one of our most difficult human relationships. It's easy to misunderstand. Complete understanding is extremely difficult. If your customer does not understand he may close his mind instead of your sale. We don't like to admit that we don't understand something.

You build the foundation and insure understanding through the sincere and thorough use of the five P's. Never assume that you don't have to cover obvious points; points that you have said a thousand times. "But," you say, "I get so bored with that routine, over and over and over." OK, maybe you need to change your routine, but don't leave out the vital parts of your story.

Bored, you say? Think back. You developed your "courting line" early in life. Girl after girl listened with rapt attention to your spell-binding story. The points you made, time after time, did not bore you!

# SULPHUR



## Practical Guidance on the Handling, Storage and Use of Sulphur— SOLID OR MOLTEN

Old hands, accustomed for years to handling Solid Sulphur, will need little advice, if any...unless Molten Sulphur is to be in the picture for the first time. In this case, our experience with and knowledge of Molten Sulphur may be helpful.

But new plants entering the Sulphur-consuming picture for the first time should find our service of considerable help regardless of the kind of Sulphur used. One facet of this service consists of a well-documented

and well-illustrated 5 section Manual covering all phases of the handling, storage and use of Sulphur, both solid and molten, plus useful information on sampling, analyzing, and broad properties of Sulphur.

As a preliminary to any service in person you may require—and which we shall be glad to provide—would you like to have a copy of this Manual? Please write us on your company's letterhead and address your request to our Sales Department.

- I — The Sulphur Industry
- II — Shipping Molten Sulphur
- III — Handling and Storage of Molten Sulphur
- IV — Analysis of Sulphur
- Appendix — Physico-Chemical Properties of Sulphur



### TEXAS GULF SULPHUR COMPANY

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It's like the man who stated, when he started to tell a joke, "Now don't stop me if you've heard this one. I want to hear it again myself." Sure, make it interesting. You're competing for the man's time. Be a respecter of time, but don't neglect the points which lead to a complete understanding of what you're saying.

But, play it smart all the way. Don't enjoy the velvet rattle of your jaws so much that you can't watch for closing signals. He may give a signal through a question or a comment . . . if you let him talk! Remember to let him talk. You'll learn to spot some good cues from his questions and comments. Be flexible and alert. If he wants to close, give him his wish. The foundation needs to be adequate to reach a successful close but no more. The foundation for the Empire State Building is not needed for your house.

Don't talk yourself into a sale, and out again. Just enough to close the sale.

You don't sell fertilizer—you're selling benefits from fertilizer. Sure, you must establish the basic identity of your product, its strong points and the outstanding services you can render. But don't go too far. The customer knows that you're a fertilizer salesman or you're not doing your job right. But, basically, the final customer—the farmer—doesn't want fertilizer or corn or grass. He wants a higher net income. You're selling more profits from farming, a higher standard of living, a bigger farm. When you courted that girl you considered your own fascinating company as benefit enough for the girl. You saw yourself as a dashing young blade, romantic, interesting. You closed, date after date. Why? Not because of the things you saw or thought. It was because from the time that girl could understand a word she had been steered by her mother

and every other female contact toward one objective: A husband. She took your insufferable self image and coldly transformed it into a picture of a signed, sealed and delivered husband. Why? Girls are expected to marry. Husbands mean financial security, added support, community standing.

**That's the image you must build in the customer's mind. Not the raw, cold, stark facts about fertilizer, but the warmth of financial security, progress, and community standing which will flow from the use of your fertilizer. This warm image must rest on a firm factual base which you can demonstrate and prove. It is not only possible to do this; it is absolutely necessary. The result: A signed, sealed and delivered order—if you'll only close it.**

A moment ago I stated that the customer wants a higher net income. Let's nail down the difference between need and want. Don't fall into the trap of hinging your close to your customer's needs entirely. A need is usually sterile until activated by a want. We really don't need many things, basically. We want a world of things. Spotlight a need, but build your motion picture of desire around the things which will fan the want flame.

If we want it bad enough we'll get it.

Don't hit and run. The sale is never really closed until the ultimate consumer has made a profit from your fertilizer. You want to close in a way that it will stay closed. Have a parting "clincher" that will destroy his doubts before they develop. But remember that while the marriage consummation process is a rather positive indication of interest, it is not the totality of marriage. Marriage is a day-to-day and year-to-year process. A follow-up is needed, and the same applies after the close.

#### Summary

1. Honestly use the five P's.
2. Never deviate from personal integrity.
3. Be ready to close at all times.
4. Be ready to roll with the "no" punch.
5. Remember that the customer expects you to ask.
6. Build a solid base of understanding.
7. Wrap your close in the satisfactory benefits.
8. Don't hit and run. Follow up.
9. Be good enough to divorce divorce from your vocabulary.

#### New Quarantine Chief Named in California

SACRAMENTO, CAL.—W. C. Jacobsen, director of the California Department of Agriculture, announced that E. A. Breech has been selected from the civil service list to fill the vacancy created in the department by the retirement of A. P. Messenger, chief of the Bureau of Plant Quarantine. Mr. Breech has served as assistant chief of the bureau for the past six years.

Mr. Breech commenced his career in the agricultural field in 1924 when he accepted employment with the U.S. Department of Agriculture Experiment Station in Imperial County. He entered state service in 1925 as a plant quarantine inspector at the Fort Yuma Border Station. Since then he served as inspector in charge of the Redwood Highway Station on the Oregon border and occupied a supervisory position in the bureau's headquarters office before becoming assistant chief.

#### AGENT RESIGNS

GLASGOW, KY.—J. O. Horning, Barren County agricultural agent for the past 40 years, has offered his resignation to the Barren County Fiscal Court.

#### Walter J. Murphy, ACS Editor, Dies

WASHINGTON—Dr. Walter J. Murphy, 60, editorial director of American Chemical Society publications, died here Thanksgiving day following an illness of several weeks' duration.

Dr. Murphy was well known throughout the agricultural chemical trade, having attended many of the industry's meetings and being closely associated with the chemical industry through many years of activity with ACS.

Before joining the Society in 1942, he had been associated with U.S. Rubber Co., American Cyanamid Co. and George Chemicals, Inc. in various sales and executive capacities. His early responsibilities at ACS included editorship of two of the Society's publications, "Chemical and Engineering News" and "Industrial Engineering Chemistry." In later years, he was

associated with "Agricultural and Food Chemistry."

Dr. Murphy was recipient of a number of honors and awards, among which was the gold medal of the American Institute of Chemists which he won in 1950. He was also commended for his work in focusing attention of the world on the work of chemists and for pointing out their contributions as professional men.

He had undertaken many scientific and study missions for the U.S. government. One of these was a trip to Germany following World War II to evaluate the chemical industry of that nation and to determine its potential.

#### NEW MONSANTO DIRECTOR

ST. LOUIS, MO.—Alan H. Temple of New York has been elected a member of the board of directors of Monsanto Chemical Co. Mr. Temple is presently vice chairman of the board and a director of the First National City Bank of New York.

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## Forest Response To Fertilizer Noted at Meeting

SAN FRANCISCO — "Experiments in field trials have spectacularly demonstrated the response of trees to the application of certain inorganic nutrients." This was a statement made by Dr. H. A. Fowells of the U.S. Forest Service, Washington, D.C., who was addressing the Division of Silviculture meeting held during the Society of American Foresters annual meeting in San Francisco, Nov. 15-19.

Among the examples of response to chemical fertilizers cited by Dr. Fowells was a study by Heiberg and White in 1951 in which red and white pines and Norway and white spruce deficient in potash were treated with the proper fertilizer at the rate of 200 lb. per acre. "After treatment the annual height growth of the fertilized trees was 46% to 104% greater than that of unfertilized trees, and response continued for a number of years," he said. He also gave examples which show greater seed production as resulting from better nutrition.

Dr. Fowells said that one of the questions facing the forester today is how to determine whether the nutritional status of forest trees is satisfactory. He stated, however, that although three levels of nutrition are recognized in plants—deficiency, sufficiency or optimum, and luxury consumption—the forester is most concerned with the first two levels. "In forest soils the level of nutrient availability is probably rarely so high that

trees exhibit luxury consumption," he said. He mentioned soil analysis as one method, but said that the plant itself is perhaps the best indication of its nutritional status, either by a visible symptom or by foliar analysis. According to Dr. Fowells, nitrogen deficiency is commonly seen to result in light green or yellowish needles, phosphate deficiency in needles with a purplish cast, and lack of potash in stunting and brownish colored needles.

Dr. Fowells went on to say that there is a growing body of information to show within what ranges the concentration of certain elements in forest trees should lie. He quoted from a study which showed the nitrogen concentration of deficient trees with yellowish foliage was 0.6 to 0.8%, whereas the nitrogen concentration of healthy vigorous trees with green foliage was 1.1 to 1.7%. "It was found that nitrogen concentration increased from 1.2 to 2.4% after nitrogen fertilizer had been applied," he said. He also stated that relationships between foliar concentration and growth had been observed in both forest and greenhouse studies.

## September Lime Sales Reported by USDI

WASHINGTON—Domestic sales of agricultural lime in September, 1959, amounted to 13,589 short tons, reported the Bureau of Mines, U.S. Department of the Interior.

This compares with 18,009 short tons sold during the same month a year ago.

Sales for the nine month period ending Sept. 30, 1959, amounted to 141,234 short tons or 1,840 short tons more than the similar period in 1958.



**AWARD WINNERS**—Jay Lanoux (left), advertising manager of Hahn, Inc., and G. E. Betullius (center), sales manager of the Hahn farm sprayer division, receive the four International Awards won by Hahn advertising from Lee Edmiston, account executive and manager of the Keller-Crescent advertising agency, Evansville, Ind. The awards were part of the 1959 Advertising Awards Contest conducted by the affiliated Advertising Agencies Network in Boston.

## Agronomists, Soils, Crop Groups Elect Officers for 1960

CINCINNATI, OHIO—Dr. George F. Sprague, Agricultural Research Service, USDA, Beltsville, Md., was named president of the American Society of Agronomy at the group's recent annual meeting in Cincinnati. The meeting was held jointly with the Soil Science Society of America and the Crop Science Society of America.

The SSA elected as president, Dr. J. W. Fitts, head of the soils department of North Carolina State College, Raleigh; and as vice president, Dr. Werner Nelson, American Potash Institute, Lafayette, Ind.

New officers of the Crop Science Society of America were named as follows: Dr. H. B. Sprague, head of the agronomy department at Pennsylvania College of Agriculture, president; and Dr. J. R. Cowan, farm crops department, Oregon State College, vice president.

Retiring president of the ASA is Dr. J. B. Peterson, head of the agronomy department of Purdue University. The new ASA vice president is Dr. B. R. Bertramson, head of the department of agronomy at Washington State University.

More than 400 research reports were presented by soils and crop scientists at the meeting which was attended by more than 1,700 persons, including members and their wives, students and undergraduates interested in soils and agronomy.

The group named the Morrison Hotel, Chicago, as the site for the ASA annual meeting for 1960. Dates of the meeting will be announced later.

## MEASURES CALCIUM

CINCINNATI—An electrode constructed by soil scientists at Michigan State University which measures the activity of calcium in clay suspensions was described before the annual meeting of the American Society of Agronomy here recently.

The electrode measures activity of calcium just as glass electrodes measure hydrogen ion activity in the determination of soil acidity, according to Dr. Max Mortland, associate professor of soil science.

Scientists and farmers are interested in the rate soil particles release elements for plant use. Some forms of elements are "tied up" by certain soil particles and are not readily available to plants.

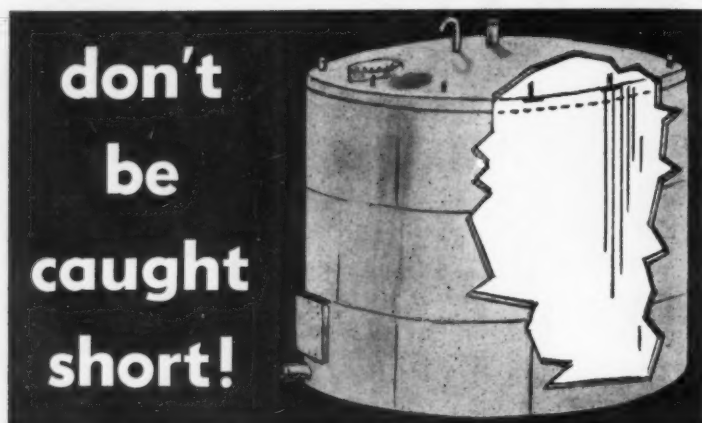
Knowledge of what is tied up and when it is tied up can mean more profitable use of fertilizers, Dr. Mortland said.

## Herbert L. Levin Heads Kentucky Insect Group

FRANKFORT, KY. — Herbert L. Levin was named the first president of the newly organized Kentucky Independent Pest Control Assn.

Mr. Levin said the group grew out of a conviction of members of the industry who "felt they were not properly represented by any existing pest-control association which would look after its needs in Frankfort."

Other officers elected include: Verlon Gosser, vice president; Lester M. Levin, secretary-treasurer; J. W. Walker, J. T. Ponsell, Cecil Powell, Ted Parks, Dudley Strong and E. T. Blanton, directors.



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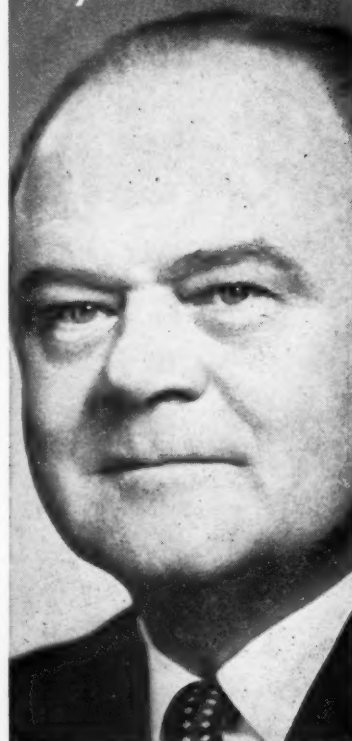
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## Progress in Chemical Fallowing Awaits Good Herbicide Development, USDA Says

WASHINGTON—Chemical fallowing, as a valuable dryland farming practice in the Great Plains area, awaits development of highly efficient herbicides that have no hold-over toxic effects on crops, the U.S. Department of Agriculture reports.

Cooperative federal-state research in Texas shows that chemical fallowing leaves more plant residue for ground cover than ordinary fallow methods and thus aids in reducing soil loss by wind erosion.

The research also indicates that when adequate weed control is obtained with chemicals, moisture storage in the soil and crop yields may be comparable to that obtained under usual dryland farming practices.

The experiments were conducted by Jack J. Bond and Thomas J. Army of USDA's Agricultural Research Service, and A. F. Wiese of the Texas Agricultural Experiment Station. Their research shows the need for herbicides that will control a wide range of grasses and broadleaved weeds without injuring crops usually planted after a normal fallow period.

Research showed slightly lower crop yields on chemically-fallowed plots than on those fallowed by sweep tillage, apparently because of reduced moisture storage caused by incomplete weed kill. The scientists believe development of more efficient chemicals may eliminate this problem.

Of the chemicals tested, the ester formulation of 2,4-D applied at the rate of 1 lb. per acre controlled such broadleaved plants as Russian thistle, kochia, and puncture vine, but did not control grasses. In many instances

grasses increased where broadleaved weeds had been killed. Applications of herbicides after a tillage operation, but before crop emergence, were not successful.

During the fallow periods in a wheat-sorghum-fallow rotation, 2,4-D gave good control of broadleaved weeds when it was applied while the weeds were young. Large plants were difficult to kill.

Field observations of chemical fallowing indicate considerably more wheat stubble remained on the surface over the winter than with sweep tillage. Furthermore, a considerable part of the wheat stubble on the chemically-fallowed plots remained standing until the next sorghum crop was seeded. The standing stubble reduced wind erosion.

## Plant Nematodes Discussed in Idaho

IDAHO FALLS, IDAHO—Plant nematodes have caused considerable crop damage throughout the state, especially in potato and sugar beet areas, according to Dr. Harry S. Fenwick, plant pathologist at the University of Idaho.

Dr. Fenwick spoke to agricultural extension agents from Bonneville, Butte, Fremont, Madison, Teton and Jefferson counties in a meeting called to study measures for control of nematodes.

He estimated a loss of \$1.5 million yearly in sugar beets of two counties in the central part of Idaho, but he did not name the counties.

Some of the nematodes are native to the soil, he said, but many were brought into Idaho attached to numerous transported materials and objects.

The worms have existed in Idaho

for many years, he noted. The clover nematodes were reported in the Boise area as early as 1922. The sugar beet nematode is widespread in east Idaho and can be found in all sugar beet areas of the state.

Similar county agent discussions are scheduled in Pocatello, Twin Falls and Parma.

## 9-Month Fertilizer Sales

RICHMOND, VA.—The Virginia Department of Agriculture reports that 687,596 tons of fertilizer were sold during the nine months ending Sept. 30, 1959. This figure represents an increase of 61,792 tons over the same nine months in 1958.

Of the 687,596 ton total, mixed fertilizers accounted for 600,227 tons and materials 87,369 tons.

Most popular grade was 10-20-10, with 173,713 tons sold during the nine months. Most popular material was 20% nitrogen goods, with 23,545 tons sold.



Albert Brooks



J. F. Whitescarver

**NEW APPOINTMENTS**—Albert C. Brooks has been named manager of the Baltimore sales division for U.S. Industrial Chemicals Co., Division of National Distillers and Chemical Corp. Alden R. Ludlow, Jr., vice president in charge of sales, announced the appointment. Mr. Brooks succeeds James F. Whitescarver who has retired. Mr. Brooks has been associated with USI for approximately 25 years, and has a varied background of experience in the plant, in the laboratory and in sales. Mr. Brooks' predecessor, James F. Whitescarver, joined USI in 1922 and served as Baltimore division manager for many years.

## Weed, Insect Damage Reviewed in Wyoming

CASPER, WYO.—Weeds and insects cause several million dollars damage in Wyoming each year, the Wyoming Weed and Pest Control Conference was told here.

Speakers reported to the conference that \$1.5 million damage was done in 1959 to the state's bean, alfalfa and wheat crops by insects. The damage from weeds was said to be even greater.

A resolution urging amendment or complete revision of the state's weed and pest control laws was approved by the conference.

Ray Webber, Frannie, was re-elected chairman. Other officers named were Ralph Campbell, Thermopolis, vice chairman; Eldon W. Kinghorn, Basin, treasurer; Harry McMillan of Riverton and Gil Younges of Powell, directors. A secretary will be appointed later.

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WINONA, MINNESOTA

**CRANBERRY**

(Continued from page 1)

than 300 acres. For more than 80% of the individual growers, revenue from cranberries represents the entire source of their income.

Payments representing profits on the previous year's harvest are not received by the growers until the last two months of the year.

Now, even the final payment for last year's crop is in doubt. As for this year's crop, the outlook is dismal indeed. The vines were planted earlier, some as long ago as 100 years. They bloom about June of each year; the fruit ripens throughout the summer and is harvested over a four or five week period beginning in September.

Machines have virtually replaced itinerant bog workers once employed by the hundreds during harvest time. Approximately 75% of the growers are affiliated with Ocean Spray Cranberries, Inc., the country's largest co-operative in the business of marketing fresh berries and processing part of the crop for subsequent marketing as cranberry sauce and cranberry juice.

Growers associated with the co-operative are paid a basic price on delivery of their berries to the company's screenhouses. Current figure is \$5.60 a barrel, from which 60¢ is deducted for screening and, if the harvesting boxes are rented, as most are, another 5¢ a box for rental fee, with three boxes constituting a barrel. Grower net at this point is \$4.85 and it has cost him from \$8 to \$10 a barrel to get his berries this far in the direction of the consumer. A barrel is equivalent to 100 lb. of fresh berries or, after processing, to 272 lb. of cranberry sauce.

The crop is then marketed by the cooperative, with the grower receiving additional payments from the berry pool until the final sale figure is reached. Final barrel price in 1957 was \$11.38 with a total of \$10.60 paid to date on the 1958 crop.

At this point the average growers say they have done just a little better than break even on last year's labor and harvest, if they have been on the efficient end of the production cost estimate.

Yield per acre ranges from a low of 25 barrels to more than 125, depending on richness of the bog and efficiency of the operation. Bogs producing 85-125 barrels are in the "good yield" classification. State average is approximately 37 barrels per acre. Yet some bogs have yielded more than 200 barrels per acre in what growers call "freak years."

A spokesman for the cranberry industry has estimated the value of this year's crop at "about \$50,000,000" and placed the extent of damages done the industry at "another \$50,000,000."

**President Resigns**

SALT LAKE CITY, UTAH—Lockwood W. Ferris has resigned as president of Bonneville, Ltd., operators of a solar evaporation potash complex at Wendover, and will re-enter the field of consulting metallurgy and chemical engineering here.

Mr. Ferris was primarily responsible for the development of an economic process at the Wendover plant in the 1920's. He served for many years as vice president and general manager of Bonneville, Ltd., before his election as president and general manager in November, 1957.

**TO CONSTRUCT PHENOL PLANT**

MIDLAND, MICH.—The Dow Chemical Co. announces it will construct a phenol plant with a capacity of 36 million lb. a year in the Pacific Northwest. The plant will be built at a location still to be selected on deep water at Puget Sound, or in the Longview, Wash., or the Portland, Ore., area. Options on some sites have been secured and others still are under study.

**Water Seepage Halts Mine Temporarily**

WASHINGTON—Potash Company of America has stepped up production at its Carlsbad, New Mexico, mine to compensate for a temporary shutdown at its new facilities in Saskatchewan, Canada, the firm has announced. Water seepage in the new shaft in Canada, while not extensive enough of itself to halt production, caused company officials to engage the Cementation Corp. of Toronto, Ont. to make necessary repairs.

According to John Hall, PCA vice president, the seepage situation was not unexpected, since the shaft goes down well below the 3,000-ft. level. However, repairs made now are expected to be of permanent nature, he said, and will enable the company to operate later without difficulty from this source.

The Canadian mine was closed Nov. 9 to facilitate the repair job. The

company says the facilities may be inoperative for some time, but potash shipments will continue to be made from Carlsbad where ample stocks are on hand.

In a letter to the trade, Mr. Hall indicated that the present shutdown of the mine is in the interest of preserving the facility for the future. He reports that ore from the deep mine has proved to be of good quality, and shipments have been made from it to fertilizer firms in both the U.S. and Canada.

**SALES IN ARKANSAS**

LITTLE ROCK, ARK.—The Arkansas State Plant Board here reports that 8,515 tons of fertilizer were sold during October, 1959. This is in contrast to some 12,170 tons sold during October of last year. July through October accumulated tonnage was also down from the similar period last year.

**Globe Chemical Moves; Names New Officers**

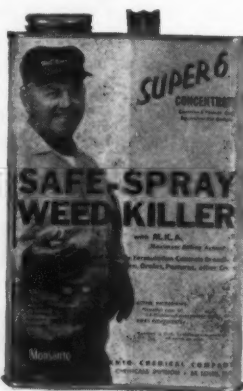
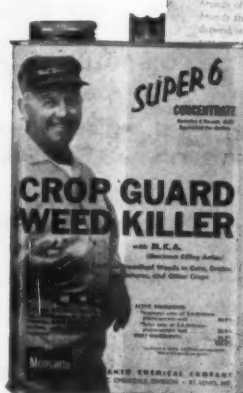
HOUSTON, TEXAS — The Globe Chemical Co. of Houston, has moved to new quarters, according to an announcement by the firm's president, Louis K. Jacobs. New officers are E. B. Singer, vice president and sales manager; Frank Meade, secretary; and Martin Elfant, treasurer.

Formerly located at 1408 Cook St., the company has moved to 110 Preston. Globe Chemical manufactures insecticides and is a distributor for outside fogging equipment, inside spraying equipment and disinfectants. It has been in operation eight years.

**BIRTHDAY HONOR**

WILMINGTON, DEL.—Ellwood A. Pierson, retired Delaware feed and fertilizer supply dealer, was feted on the occasion of his 83rd birthday at an open house Nov. 8, followed by a dinner in his honor.

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## MICHIGAN

(Continued from page 1)

cause of sudden infestations requiring special combinations of toxicants.

In addition to the plant, Niagara's regional headquarters will be located at South Haven and will serve the administrative function for Michigan, Ohio, and parts of Kentucky and West Virginia. In conjunction with this move, the company announces three new appointments:

Willard Van Dragt, who has been supervising the warehouse at South Haven, will also serve as manager of production, while Gerald Morris has been named office and credit manager. Mr. Morris was previously personnel manager at Niagara's Middleport, N.Y., plant.

Joseph Klackle, until now a territory manager in Michigan, takes the post of regional technical service man-

ager. Ralph Gaines will continue to serve as regional manager and will be responsible for over-all direction of the newly consolidated and expanded facilities.

In its exhibit at this year's Michigan State Horticultural Society Show, Niagara features a number of the products which it will formulate at the new Michigan blending plant. Included in these are: products for control of apple scab; dusts for mite control of peaches, apples and other fruits; and compounds for control of a variety of insects on vegetable crops.

### NEW MIDWEST OFFICE

DES MOINES, IOWA—California Spray-Chemical Corp. has moved its midwest headquarters here from St. Louis, Mo., it has been announced. New quarters have just been constructed for the company at 2913 Ingersoll Ave.

## Chemical Employment Down During October

WILMINGTON, DEL. — Employment in chemical manufacturing in Delaware showed a decline of 200 workers in October. The employment level was estimated at 26,500, compared to 26,700 in September and August, according to the monthly report of the Delaware Unemployment Compensation Commission.

The number of workers in the chemical industry is 100 less than October a year ago when 26,600 were employed.

Average weekly earnings of the production worker declined between September and October from \$128.24 to \$126.48. A drop was noted in average hourly earnings, \$3.07 in October and \$3.09 in September. A slight decline was shown in the work week, 41.2 hours in October and 41.5 in September.

## JOINT MEETING

(Continued from page 1)

about increases of seed yields up to 45%, the scientists said.

Interactions of insecticides, fungicides and fertilizers applied to sugar beets resulted in varying degrees of decreased beet germination and yield, according to a paper by J. T. Schulz and J. A. Onsager, North Dakota Agricultural Experiment Station, Fargo. They reported that following utilization of organic insecticides for sugar-beet root maggot control, varying degrees of decreased beet germination and yields were noted.

Contributing to this situation, they indicated, were interactions of the chemicals employed and the manner of application of each.

The effect of insecticide-fertilizer mixtures and seed treatments on emergence of sugar beet seedlings was discussed by W. R. Allen, Canadian Department of Agriculture Research Station, Winnipeg, Manitoba. The tests described by Mr. Allen were made to determine the effect on seedling emergence of formulations applied at seeding for sugar-beet root maggot control.

Fertilizer mixtures were prepared using 11-48-0 grade, plus insecticides and solvents, he said. Insecticides and particularly solvents that strongly inhibit root growth decreased the rate of emergence. At low levels of soil moisture, fertilizer was found to be more important.

In the sub-section of insect vectors and plant diseases, J. T. Medler, University of Wisconsin, department of entomology and P. W. Smith, Wisconsin Department of Agriculture, Madison, discussed the relationship of greenbug migration and the distribution of virus in Wisconsin. They described their methods of trapping the bugs and reported that the northward migration of greenbugs brought the introduction of a virus disease of oats. Chemical control measures applied against the greenbug when populations became abundant were ineffective because of virus already spread in the crop.

## W. Harold Schelm Named Solutions' 'Man of the Year'

CHICAGO — W. Harold Schelm, president of Schelm Brothers, Inc., of Peoria, Ill., was presented with an award as "Man of the Year for 1959," by the National Fertilizer Solutions Assn. at its convention in St. Louis, Mo.

A year ago, the association board of directors decided it was time to begin to recognize in some tangible way the contributions which have been made by men in the industry in order that the future of the entire industry might be served through its association. This is the second award to be made, upon recommendation by an awards committee.

Mr. Schelm is a charter member of the organization and served on its original board of directors, retiring from the board in 1958.


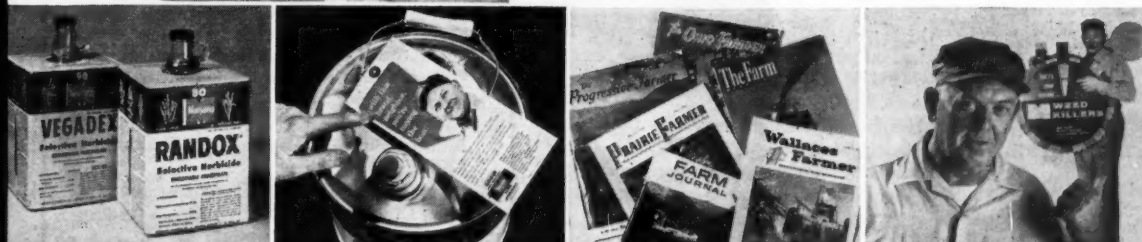
In making the presentation, William B. Parrish, chairman of the Awards Committee, stated, "He has been truly a bulwark throughout these past years of growth."

## Voices Optimism

EVANSVILLE, IND. — Optimistic sales predictions for 1960 marked the recent Distributor Sprayer Clinic of Hahn, Inc., manufacturer of Hi-Boy farm sprayers.

Attended by 90 distributors and salesmen from every part of the country, the three-day meeting was based on the theme, "Step Up with Hi-Boy." This also is the basic theme of the firm's 1960 advertising campaign.

*Here's a free double-barreled direct mail program that really brings the customers in...a tried and proven traffic builder...just stock 100 gallons of any combination of Monsanto weed and brush killers. Monsanto will send out two mailings to 100 of your top customers. The first mailing invites them to come into your store... the second mailing offers them a \$1.00 pack of farm utility needles absolutely free! You get 200 mailings and 100 of these useful needle packs at no charge.*

Easy-to-use containers that "tell" and "sell"! These new 5-gallon spout-top cans almost sell themselves. Each can tagged with complete "how-to-spray" instructions written in plain language.

Monsanto advertising sells and re-sells your customers! Your customers will see "Red" Emm products advertised in Farm Journal, Progressive Farmer, Farm Quarterly and many state farm papers.

Lifelike display of "Red" Emm solves weed problems! Giant display with the "dial-the-crop" selector answers customers' questions for you tells just what weed killer to use.

# Monsanto

Monsanto Chemical Company, Organic Chemicals Division  
Agricultural Chemicals Department, St. Louis 66, Missouri

Sounds good! Please send me more information regarding the new Monsanto Weed and Brush Killer line.

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Learn how Monsanto can help you all more in 1960. Mail this coupon right now (while you are thinking about it) and get all the money-making facts.

# Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

## VIEWPOINT . . .

### Technology, Fertilizers, Profit Comprise Ingredients for Modern-Style Agriculture

By Dr. Vincent Sauchelli  
Chemical Technologist  
National Plant Food Institute

FERTILIZERS ARE RIGHTLY judged as indispensable in modern farming, if profit is one of the objectives. Since today's farmers, in the United States at least, operate their farms as industrial plants, it is necessary to focus a major portion of their attention on profit if they are to survive. Modern agriculture is our country's biggest industry and exerts a tremendous influence for good on our national economy. Hence, the importance of the role commercial plant foods play in the general economy.

Fertilizers make it possible to increase crop yields per unit of land at relatively little cost. These increases can be very substantial; in fact, in some areas of the country having light, sandy soils, it would not be possible to farm on a commercial basis, if fertilizers were unavailable. By increasing the yield per acre, a farmer is able to reduce the crop unit cost of production on each acre and in this way assure himself a better profit. That this is a fact appreciated by our farmers is reflected by the constantly increasing annual consumption of commercial fertilizers in this country and throughout the world.

In fiscal 1957-58 the consumption of actual plant food in the United States and its territories rose to a new record high: over 6,500,000 net tons or a rise of 2.1% over the total for fiscal 1956-57. If we state the record in terms of total fertilizer as such, that is, not in equivalent terms of nitrogen, phosphate and potash, the consumption, 22,515,763 tons, showed a slight drop of about 1%.

This comparison points up a trend that should be recognized not only by the statistician but by management as well. There is a steady trend toward the consumption and production of fertilizers of higher plant food concentration. One ton of say 10-20-10 is equivalent in plant food content to two tons of 5-10-5. The proportion of these higher analyses throughout the country is increasing. This fact is reflected in the consumption statistics.

Many state chemists and the U.S. Department of Agriculture now report fertilizer production and consumption statistics both as grades and as equivalent actual plant foods. It seems advisable to have the data in both forms in order to get a more comprehensive picture of the trend. For example, as just indicated above, it is possible to make a wrong interpretation of the true situation if only the tonnage of grades is given. A firm may be selling this season fewer tons of certain grades as compared with several seasons back when actually it is selling more plant food because of the higher analysis of the goods.

A newer concept of fertilizer use is developing and it has its impact on farm production and fertilizer manufacturing processes. The function of modern fertilizers is to raise the level of soil fertility to a degree that will permit the growing of improved varieties of commercial crops. Such crops have been developed by plant breeders so that they have much higher capacities to produce harvests. To realize the benefits of these increased capacities it is necessary to apply more plant food per acre to the crops.

Hybrid corn varieties for example have been developed to where they can produce 200 to 250 bu. an acre if they are given proper soil management and the necessary plant foods. It takes chemicals to produce chemicals. Farmers who are operating commercially have big capital invest-

ments in mechanical equipment and power and cannot be satisfied with yields of 60-80 bu. an acre.

The fertilizer industry has contributed to the development of higher efficiency in crop production by modernizing its technology and marketing patterns and by providing concentrated fertilizers. These fertilizers being more concentrated can usually be bagged and transported and handled at lower cost and all these factors have enabled the industry to maintain relatively lower prices per unit of plant food.

The fertilizer industry has moved parallel with progressive, modern agriculture in many ways. The industry has almost tripled in size since pre-World War II and has installed modern, efficient processes at heavy cost to meet modern requirements. Leaders in the trade have good reason to look ahead with optimism. Research is constantly developing new methods and better materials. Its services to agriculture are appreciated by farmers and those government agencies which guide the thinking of farmers. There is every reason to believe that the future will make increasing demands for its products. The industry also seems determined to do everything to deserve the confidence of those it serves.

### Big Chemical Year Foreseen

THE CHEMICAL industry, according to predictions made by Fortune Magazine, will play an important part in an upsurge of U.S. industrial production which it says may reach \$260 billion by 1970. The figure for 1959 is expected to total \$164 billion, despite the effects of the steel strike.

"No major industry, except for electronics, has a future or a past as bright as the \$18-billion 'chemical and allied products' group," the magazine said. "Chemicals, which accounted for only 4% of the total industrial output in 1929, accounted for 11% this year.

"Growth should continue at this rate, and by 1970, chemical output probably will come to nearly \$40 billion—15% of the value of all industrial production."

Obviously the contributions made by the fertilizer and pesticide industries have had a considerable part to play in this overall gain, and will continue to increase in importance on the national scene.

All growth, however, is based primarily on developing markets and selling goods. The secret of maintaining consistent output of goods depends largely upon the efficiency of sales planning and execution from factory dock to the farmer's field.

### Fertilizer Pays Off

"The amount of fertilizer applied to pastures should be determined by the number of livestock involved. I don't think it is asking too much to use \$10 to \$20 worth of fertilizer per cow, especially for dairy farmers.

"Where beef cattle farmers intend to sell something from the herd, they can plan their fertilizer program according to what they intend to sell.

"I have never yet heard a livestock producer say he thought his fertilizer program was too expensive when the time came to sell his livestock or livestock products."—W. R. Thompson, Mississippi Agricultural Extension Service.



Croplife's Home Office

## Croplife®



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop area) basis with a mailing schedule which covers consecutively, one each week, three geographic regions (South, Midwest and West) of the U.S. On the fourth week, production personnel in fertilizer manufacturing and pesticide formulating plants throughout the U.S. are covered in depth. To those not eligible for this controlled distribution, Croplife's subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price 25¢.

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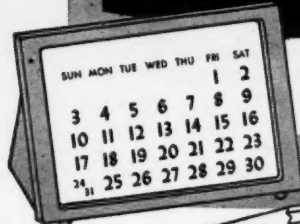


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# MEETING

# MEMOS



- Dec. 7—Annual Kansas Fertilizer Conference, Manhattan, Kansas.
- Dec. 7-8—Minnesota Soil Short Course, University of Minnesota Institute of Agriculture, St. Paul, Minn.
- Dec. 8-9—73rd Annual Peninsula Horticultural Society meeting, Elks' Hall, Salisbury, Md.
- Dec. 7-9—46th annual meeting, Chemical Specialties Manufacturers Assn., Hotel Mayflower, Washington, D.C.
- Dec. 7-10—Central Canada and North Central Weed Control Conferences, Royal Alexandra Hotel, Winnipeg, Manitoba, Can.
- Dec. 7-11—Nebraska Fertilizer Institute anhydrous ammonia workshops, Dec. 7, Lincoln, Neb.; Dec. 8, Hastings, Neb.; Dec. 9, Ogallala, Neb.; Dec. 10, Kearney, Neb.; Dec. 11, Columbus, Neb., Agricultural Ammonia Institute cooperating.
- Dec. 8—Annual Kansas Fertilizer Dealers Conference, Manhattan, Kansas.
- Dec. 8—Minnesota Fertilizer Industry Assn. meeting, University of Minnesota Institute of Agriculture, St. Paul, Minn.
- Dec. 8-10—District Fertilizer Dealers and Lime Producers Schools, Dec. 8, Green Bay, Wis., Riverside Ballroom; Dec. 9, Eau Claire, Wis., Eau Claire Hotel, and Dec. 10, Madison, Wis., Wisconsin Center Building, sponsored by the Soils Department, College of Agriculture, University of Wisconsin.
- Dec. 9-11—Kansas District Fertilizer Dealer-County Agent Training Schools: Dec. 9, Chanute; Dec. 10, El Dorado, and Dec. 11, Wichita.
- Dec. 9-11—International Crop Protection and Pest Control Exhibition, Seymour Hall, St. Marylebone, London, England.
- Dec. 10—Iowa Fertilizer Promotion Workshop, Savery Hotel, Des Moines, Iowa.
- Dec. 10-11—Michigan State University Fertilizer Conference, Kellogg Center, East Lansing, Mich.
- Dec. 10-11—Arkansas Plant Food Conference, Lafayette Hotel, Little Rock, Ark.
- Dec. 11—Ohio Fertilizer and Lime Conference, conference theatre, Ohio Union, Ohio State University, Columbus, Ohio.

## 1960

- Jan. 5-6—Annual Texas Fertilizer Conference, College Station, Texas.
- Jan. 6-7—Wisconsin Pesticide Con-

ference with Industry, Wisconsin Center Bldg., University of Wisconsin, Madison, Wis.

- Jan. 6-8—14th Annual Meeting, Northeastern Weed Control Conference, Hotel New Yorker, New York City.
- Jan. 7-8—Colorado Fertilizer Conference, Fort Collins, Colo.
- Jan. 7-8—Sixth Annual Mississippi Insect Control Conference, in conjunction with annual meeting of Mississippi Entomological Assn., Mississippi State University, State College, Miss.
- Jan. 11-14—Kansas Fertilizer Dealer Meetings: Jan. 11, Hlawatha; Jan. 12, Lawrence; Jan. 13, Abilene, and Jan. 14, Belleville.
- Jan. 12-13—Thirteenth Annual Meeting of the Ohio Pesticide Institute, Lincoln Lodge, Columbus, Ohio.
- Jan. 12-13—Nebraska Fertilizer Institute annual convention, Pershing Auditorium, Lincoln, Neb.
- Jan. 13—Georgia Plant Food Educational Society, University of Georgia, Athens, Ga.
- Jan. 13—New Mexico Agricultural Chemical Conference, third annual meeting, Milton Hall, New Mexico State University, University Park, N.M., Dr. J. Gordon Watts, chairman.
- Jan. 13-14—Pesticide School, North Carolina State College, Raleigh, N.C.
- Jan. 13-15—Ninth Annual Convention, Agricultural Ammonia Institute, Statler Hilton Hotel, Dallas, Texas.
- Jan. 13-15—Virginia Polytechnic Institute Agronomy Schools: Jan. 13, Culpeper; Jan. 14, Tappahannock; Jan. 15, Gloucester.
- Jan. 14-16—10th Annual Convention of the Agricultural Aircraft Assn., El Mirador Hotel, Palm Springs, Cal.
- Jan. 19-21—Twelfth Annual California Weed Conference, Sacramento, Cal.
- Jan. 20-21—Third Annual Arizona Fertilizer Conference, University of Arizona campus, Tucson, Ariz.
- Jan. 20-21—North West Agricultural Chemicals Industry Conference, Benson Hotel, Portland, Ore., C. O. Barnard, executive secretary.
- Jan. 20-22—Thirteenth Annual Southern Weed Conference, Buena Vista Hotel, Biloxi, Miss.
- Jan. 21—Northeast Region, National Plant Food Institute fertilizer sales promotion workshop, Hotel Hershey, Hershey, Pa.
- Jan. 25—Wisconsin Lime and Fertilizer Day, University of Wisconsin campus, Madison, Wis.
- Jan. 25-26—Second Annual Agricultural Pesticide Conference, Purdue University, Lafayette, Ind.
- Jan. 25-27—Cotton States Branch, Entomological Society of America, DeSoto Hotel, Savannah, Ga.
- Jan. 26-27—South Dakota Fertilizer Dealers Short Course, South Dakota State College, Brookings, S.D.
- Jan. 27-28—Annual Illinois Custom Spray Operators' Training School, University of Illinois, Urbana, Ill.
- Jan. 27-29—Symposium on Chemistry of Phosphate-Soil Reactions, Muscle Shoals, Ala.
- Jan. 28-29—Annual meeting of the Colorado Agricultural Chemicals Assn., Cosmopolitan Hotel, Denver, Colo.

Feb. 2-4—Pest Control Operators' School, North Carolina State College, Raleigh, N.C.

Feb. 4—Executive Committee Meeting, National Safety Council, Fertilizer Safety Section, New Florida Hotel, Lakeland, Fla.

Feb. 8-9—Southwestern Branch, Entomological Society of America, Hilton Hotel, El Paso, Texas.

Feb. 8-9—Twenty-Second Annual Meeting, National Cotton Council of America, Statler-Hilton Hotel, Dallas, Texas.

Feb. 9-11—Seventh Annual Agricultural Chemicals Conference, Texas Technological College, Lubbock, Texas.

Feb. 11-12—Midwest Agronomists-Fertilizer Industry meeting, Edgewater Beach Hotel, Chicago, Ill.

Feb. 17-18, 23-25—Indiana Ammonia Service School; Feb. 17, Lafayette; Feb. 18, Bedford; Feb. 23, Valparaiso; Feb. 24, Ft. Wayne; Feb. 25, Muncie.

Feb. 17-18—Pest Control Conference, Alabama Polytechnic Institute campus, Auburn, Ala. Sponsored by A.P.I. and the Alabama Association for Control of Economic Pests.

Feb. 22-25—Weed Society of America meeting, in conjunction with Western Weed Conference, Cosmopolitan Hotel, Denver, Colo.

March 22-23—Western Agricultural Chemicals Assn., spring meeting, Miramar Hotel, Santa Barbara, Cal.

March 23-25—North Central Branch, Entomological Society of America, Schroeder Hotel, Milwaukee, Wis.

March 30-31—Twenty-fourth annual meeting, Georgia Entomological Society, New Science Center, University of Georgia, Athens, Ga.

June 13-18—National Plant Food Institute annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 27-29—Pacific Branch, Entomological Society of America, Davenport Hotel, Spokane, Wash.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; B. R. Bertramson, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

## Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

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## CLASSIFIED ADVERTISING

## Oregon Corn Yield High Despite Bad Weather

CORVALLIS, ORE.—Crop yields in Oregon and across the country are lower, on the average, than last year because of less favorable weather. Still, by planting more acres, farmers are turning out a record-equaling crop tonnage, and record-breaking supplies of livestock products.

Among this year's crops, corn is hitting a new high in Oregon as well as in the nation as a whole, reports M. D. Thomas, Oregon State College extension agricultural economist.

Mr. Thomas noted that Oregon's corn crop would have been even larger if spring and early summer weather in the Willamette Valley had not been so cold and wet.

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the shifting agricultural chemical scene  
represents a powerful influence on  
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***National Coverage Weekly . . .***

Croplife's carefully controlled circulation provides national coverage weekly of manufacturers, formulators, mixers and ingredient suppliers.

***Plus Regional Coverage by Marketing-Areas . . .***


In addition, a unique regional circulation plan provides advertisers with a selective marketing-area coverage of wholesale and retail dealers and farm advisory personnel.

**WRITE—WIRE—PHONE** our nearest office for a complete analysis of Croplife's important role in your advertising program.

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